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Reported are the findings of a study of scientific societies in the United States. Some 449 professional organizations were considered of which 284 conformed to the validation criteria for inclusion. Data gathering was most successful on membership, current dues, society history, and purpose and less successful on topics related to society income and expenses, specific functions and activities, and future plans. Extensive tables of data in these areas are included, and recommendations are presented for improving the collection, maintenance, and use of base line data concerning the nation's scientific societies. (GR)

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PROFESSIONAL SCIENTIFIC SOCIETIES

1968

WOLF

RESEARCH AND DEVELOPMENT CORPORATION

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PROFESSIONAL SCIENTIFIC SOCIETIES: 1968

Robert E. Frye
William A. Creager
Walter F. Johanningsmeier
James D. Noel

Special Studies Department
Wolf Research and Development Corporation
5801 Annapolis Road
Bladensburg, Maryland 20710

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SUMMARY

A total of 449 professional organizations were considered in this study of scientific societies, from which a total of 284 were selected as conforming to the validation criteria set forth for inclusion. Owing to the limitations of the data gathering techniques employed, information was not obtained on all topics set forth in the original study objectives. The data gathering was most successful with respect to the topics relating to membership, current dues, society history, and purpose. Data gathering was least successful with regard to topics related to society income and expenses, specific functions and activities, and future plans. This report sets forth and discusses the findings of the study. Those areas in which data gathering proved inadequate are also described and recommendations are presented for improving the collection, maintenance, and use of base line data concerning the nation's scientific societies.

INTRODUCTION

This report contains the results of a study of the professional scientific societies in the United States as they exist in 1968. The study was performed by the staff of the Special Studies Department of the Wolf Research and Development Corporation; it was sponsored by the Office of Science Information Service of the National Science Foundation, which carried out similar studies of scientific societies in 1959* and 1963-64**. All three studies are similar in purpose to the extent that they attempt to identify and describe significant current characteristics of scientific societies in the United States.

This study differs from the two previous studies in two important respects. First, the contractor was required to collect all data from existing documented sources, instead of by mail questionnaire survey, the method employed in the previous studies. (A second phase of the current study has been considered by NSF which would employ a mail questionnaire survey to supplement the data gathering of this first phase effort should the need arise; however, Phase II has not yet been initiated.) The second important difference about the current study is that the data gathering effort was designed not only to provide aggregate statistics concerning the universe of scientific societies, but also to provide specific profiles of each individual society and its key characteristics and activities.

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* Dues and Membership in Scientific Societies, NSF-60-55, National Science Foundation, Washington, D.C., 1960.

** Professional Scientific Societies: Their Memberships, Dues, and Activities, A report prepared for the National Science Foundation, by Bureau of Social Science Research, Inc., Washington, D.C. , 1964.

The present study was begun in July 1968, with first effort being directed towards the definition of data to be collected and the assessment of possible data sources available to the study staff. As a result of discussions with the NSF staff, detailed descriptions were derived of the overall topics and questions to be investigated,relating to the universe of scientific societies and the specific information describing the characteristics and activities of individual societies to be accumulated into the individual society files. After exploring various sources such as libraries, reference works, and special collections of data, it was concluded that the best sources of available data for the study would be the cumulative editions of the various directories of scientific societies*, augmented and supplemented by the various brochures, prospectuses, and reports produced and readily made available by the scientific societies themselves. A complete list of data elements to be collected was subsequently derived and formatted into a data recording worksheet**. Working copies of reference works to be used were obtained, and letters requesting copies of available publications were mailed to all scientific societies nominated for inclusion in the study. Of a total of 439 societies from which information was requested, useful responses were obtained from 358.

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* A list of the references used is included as Appendix I.

** A replica of the data worksheet is included as Appendix IV.

Throughout the course of the study, 449 societies were nominated for possible inclusion from many sources. However, after a process of examining the information on each nominated society and comparing it to the criteria established for the study, only 284 societies were validated and finally included. The criteria for determining which organizations would be considered scientific societies for purposes of this study were established by NSF, and are presented in Appendix II.

For all validated societies, data were extracted from available reference works, brochures, and other acquired documents and recorded on a data worksheet from which statistical compilations were then derived. These worksheets will also serve as the society profile documents which will be delivered to NSF for further internal use and reference.

The study staff wishes to express its appreciation for the guidance and assistance provided by the staff of the National Science Foundation, particularly Mr. Henry Tovey, Miss Inez O'Brien, Mr. Albert C. Lefebvre, and Mrs. Frances M. Pentecost. Also, the cooperation and assistance of Mr. James L. Olsen, Jr. of the National Academy of Sciences - National Academy of Engineering Library and Mrs. Margaret Fisk of the Gale Research Company were of great value to the study.

In addition to the authors, members of the professional staff of the Special Studies Department who participated in this study included Messrs. Wallace R. Kocher, Robert F. Nasal, Thomas M. Janulewicz, and Robert G. Childs.

The statistical and analytical results of this study are contained in the report that follows. It should be noted that complete information was not obtainable from the existing literature on all of the topics set forth as objectives for this study and that some of the relationships described are based on limited data.

SECTION I
SOCIETIES: 1968

A. THE UNIVERSE OF U.S. SCIENTIFIC SOCIETIES

During the course of the present study, 284 organizations were determined to conform to the criteria set forth by the National Science Foundation for inclusion in this analysis of scientific societies. Since the study represented an extensive but not exhaustive attempt to identify every possible scientific society, the total number of societies established by the study should be considered a minimum, but close approximation of the actual total number of such societies. Throughout the entire study effort, additional candidate societies continued to appear. These were investigated and included where applicable. Constraints of time and funds limited the continued active search for candidate societies.

The total number of scientific societies included in this study is greater than the total number included in either of the two previous studies as shown below:

- 1959 study - 177 societies
- 1964 study - 188 societies
- 1968 study - 284 societies

Owing to major differences in the criteria for inclusion employed in the three studies, and to the methodological variances in data gathering techniques, no direct inferences can be drawn from the sharp increase of the number of societies included in the present study over the two previous studies. However, the major contributing factors are:

- Inclusion in the two earlier studies was dependent upon the return of a completed mail questionnaire, whereas inclusion in the present study was determined solely by the study staff based upon published descriptions of the society.

- The present study represents a more extensive attempt to identify societies for inclusion than the previous studies, and benefitted from the results of the two previous studies.

- Greater emphasis in the current study was placed on the inclusion of agricultural and engineering societies.

- Certain key umbrella societies which do not have individual members, such as the American Geological Institute and the Engineers Joint Council, were included in the present study at the request of NSF.

Table 1 provides some basis for comparing the general composition of the total societies included in the present study with those included in the previous studies.

TABLE 1

COMPARISON OF NUMBER OF SOCIETIES STUDIED IN 1968, 1964, 1959

DISCIPLINE	NUMBER OF SOCIETIES		
	1968	1964	1959
PHYSICAL SCIENCE (PHYSICS, CHEMISTRY, GEOSCIENCES, AQUATIC SCIENCES, ATMOSPHERIC AND SPACE SCIENCES, MATERIALS SCIENCES)	77	40	34
BIOLOGICAL SCIENCE (BIOLOGICAL SCIENCES, AGRICULTURAL SCIENCES)	86	59	67
ENGINEERING	56	23	35
MATHEMATICS (MATHEMATICS AND STATISTICS)	17	10	8
SOCIAL SCIENCE (PSYCHOLOGICAL SCIENCES, ECONOMICS, SOCIOLOGY, ANTHROPOLOGY, LINGUISTICS, ARCHAEOLOGY, POLITICAL SCIENCE)	36	45	22
OTHER MISCELLANEOUS (PHILOSOPHY AND HISTORY OF SCIENCE, GENERAL SCIENCE)	12	11	11
TOTAL	284	188	177

Of the societies included in the present study, 5 have been established since the last study in 1964, and a total of 20 since 1958. These are listed below:

Engineering

- Fluid Power Society - 1960
- Society of Logistics Engineers - 1966

Physics

- Society for Applied Spectroscopy - 1958
- Fine Particles Society - 1968

Geosciences

- American Institute of Professional Geologists - 1963
- Clay Minerals Society - 1963
- Geoscience Information Society - 1965

Aquatic Sciences

- American Water Resources Association - 1964
- Marine Technology Society - 1963

Materials Science

- Society of Wood Science and Technology - 1958

Mathematics and Statistics

- Association of Educational Data Systems - 1962
- American Society for Cybernetics - 1966

Biological Sciences

- American Society for Cell Biology - 1960
- Association for Tropical Biology - 1963
- International Organization of Plant Biosystematists - 1962
- Society of Nematologists - 1961

Psychological Sciences

- International Society for the Study of Symbols - 1963
- Psychonomic Society - 1959

Philosophy and History of Science

- Society for the History of Discoveries - 1960
- Society for the History of Technology - 1958

Two mergers have occurred since the last study and a total of 6 since 1958. These are listed below.

Engineering

- The American Society of Heating and Air Conditioning Engineers merged in January of 1959, with the American Society of Refrigerating Engineers to form the American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.

- In 1963, the American Institute of Electrical Engineers merged with the Institute of Radio Engineers to form the Institute of Electrical and Electronic Engineers, Inc.

- In 1959, the Institute of Environmental Sciences was formed by the merger of the Institute of Environmental Engineers and the Society of Environmental Engineers.

- In 1961, the Society of Automobile Engineers merged with the American Society of Aeronautical Engineers and Society of Tractor Engineers to form the Society of Automotive Engineers, Inc.

Atmospheric and Space Sciences

- In 1963, the American Rocket Society merged with the Institute of Aerospace Sciences to form the American Institute of Aeronautics and Astronautics.

Biological Sciences

- In 1962, the Genetic Society of America was formed by the merger of the Genetic Section of the American Society of Zoologists and the Genetic Section of the Botanical Society of America.

B. A SCHEME FOR CATEGORIZING SCIENTIFIC SOCIETIES

To a great extent, the value and meaning that can be derived from a study of scientific societies depends upon the basis by which the societies are grouped together for analysis.

In the study of scientific societies conducted in 1959, all scientific societies were categorized according to the following eight scientific discipline headings:

- Engineering
- Chemistry
- Biology
- Social Science
- Physics
- Earth Science
- Miscellaneous
- Mathematics

The study conducted in 1964, categorized societies under the following five discipline headings:

- Physical Sciences
- Social Sciences

- Biological Sciences
- Engineering
- Mathematics

In planning for the present study, it was decided that a finer degree of category subdivision which recognized and reflected present and future science information activities would be most useful. Hence, the following nineteen element category scheme was developed:

Engineering	56	
Chemistry	13	
Physics	19	
Geosciences	21	
Aquatic Sciences	4	
Atmospheric and Space Sciences	7	
Materials Sciences	13	
Mathematics and Statistics	17	
Agricultural Sciences	18	
Biological Sciences	68	
Psychological Sciences	14	
Economics	5	
Sociology and Social Work	5	
Anthropology	5	
Linguistics	3	
Archaeology	2	
Political Science	2	
Philosophy and History of Science	4	
General Science	8	
TOTAL	284	Societies

The primary basis for the above category scheme is the present and probable future organization of the major disciplinary science information programs in the United States. The scheme directly reflects the existence of on-going science information programs in disciplinary fields such as physics, chemistry, and mathematics. In fields where such major programs have not yet been initiated, the scheme attempts to provide a plausible basis for anticipating future science information program activities and for assessing the characteristics and activities of societies within these fields.

The engineering and biological sciences categories are by far the largest. However, no practical way to subdivide these fields into several smaller fractions could be established which would reflect both natural disciplinary subdivisions and science information activities.

C. SCIENTIFIC SOCIETIES AND THEIR DISCIPLINE FAMILIES

In order to relate societies to scientific disciplines and fields, each society was categorized with respect to its primary discipline or field. Secondary relationships with other disciplinary fields were also established for each society. The discipline groups (or "families"), thus created, provided the primary basis for analyzing and depicting scientific societies.

In the descriptions that follow, each of the nineteen discipline categories is profiled with respect to the scientific society activities related thereto. The reader is cautioned to bear in mind that these disciplinary sketches were developed from imcomplete data obtained from secondary sources, and that the conclusions and observations presented reflect subjective judgements derived from these data.

1. Engineering

There are 56 scientific societies in the United States primarily concerned with engineering; there are 52 other societies indirectly or secondarily associated with engineering. All of these societies are shown in Figure 1 , which indicates the specific inter-society relationships identified during the course of the study. Figure 1, also indicates indirectly the relationships between discipline families.

Organizationally, The Engineers Joint Council is the central organization among engineering societies since it is an umbrella organization whose membership is composed of other affiliated engineering societies.

FIGURE 1

SOCIETIES RELATED TO ENGINEERING

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 14,32,72
- American Philosophical Society
- National Academy of Sciences, National Research Council - 17,45,48,50,54,55,73,77,78,79,82,83,86,87,91,95,96
- National Association for Research in Science Teaching
- Scientific Research Society of America
- Social Science Research Council - 13

ENGINEERING

AMERICAN ASSOCIATION OF COST ENGINEERS

AMERICAN AUTOMATIC CONTROL COUNCIL - 3,4,5,6,7,8

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS - 4,9,10,20,21,22,23,24,25,26,27,28,81

AMERICAN INSTITUTE OF CONSULTING ENGINEERS - 11,21,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,97,101,102

AMERICAN INSTITUTE OF INDUSTRIAL ENGINEERS, INC. - 12,46,47,48,98

AMERICAN INSTITUTE OF MINING, METALLURGICAL, AND PETROLEUM ENGINEERS, INC. - 13,49,50,93

AMERICAN SOCIETY FOR ENGINEERING EDUCATION - 14,51,52,53,54

AMERICAN SOCIETY FOR QUALITY CONTROL, INC.

AMERICAN SOCIETY FOR TESTING AND MATERIALS - 15,55,56

AMERICAN SOCIETY OF AGRICULTURAL ENGINEERS - 15,16,17,18,19,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76

AMERICAN SOCIETY OF CIVIL ENGINEERS - 11,16,57,77,99

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS, INC.

AMERICAN SOCIETY OF LUBRICATION ENGINEERS - 22,78

THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS - 5,9,29,100

AMERICAN SOCIETY OF NAVAL ENGINEERS, INC.

AMERICAN SOCIETY OF SAFETY ENGINEERS

AMERICAN SOCIETY OF SANITARY ENGINEERING

AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS

ASSOCIATION OF IRON AND STEEL ENGINEERS

AUDIO ENGINEERING SOCIETY, INC. - 79

BUILDING RESEARCH INSTITUTE

COORDINATING RESEARCH COUNCIL, INC. - 80

ENGINEERING FOUNDATION - 20,81

ENGINEERS JOINT COUNCIL - 12,14,30,46,50,58

FLUID POWER SOCIETY - 6,23

ILLUMINATING ENGINEERING SOCIETY - 7,17,24,59,82

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC. - 1,83

INSTITUTE OF ENVIRONMENTAL SCIENCES

INSTITUTE OF NAVIGATION - 85

INSTITUTE OF TRAFFIC ENGINEERS - 86

INSTRUMENT SOCIETY OF AMERICA - 2,8,25,87

INTERNATIONAL MATERIAL MANAGEMENT SOCIETY - 88,89,90,103

METHODS TIME MEASUREMENT ASSOCIATION FOR STANDARDS AND RESEARCH

NATIONAL ASSOCIATION OF CORROSION ENGINEERS

NATIONAL ASSOCIATION OF POWER ENGINEERS, INC.

NATIONAL INSTITUTE OF CERAMIC ENGINEERS - 91

NATIONAL INSTITUTE OF PACKAGING, HANDLING AND LOGISTIC ENGINEERS

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

RADIO TECHNICAL COMMISSION FOR AERONAUTICS

SOCIETY FOR NONDESTRUCTIVE TESTING, INC.

SOCIETY OF AERONAUTICAL WEIGHT ENGINEERS

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. - 18,60

SOCIETY OF DIE CASTING ENGINEERS, INC. - 19,61

SOCIETY OF FIRE PROTECTION ENGINEERS

SOCIETY OF LOGISTICS ENGINEERS - 92

SOCIETY OF MINING ENGINEERS OF THE AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS - 13,49,93,94

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

SOCIETY OF NAVAL ARCHITECTS AND MARINE ENGINEERS - 95

SOCEITY OF PACKAGING AND HANDLING ENGINEERS

SOCIETY OF PETROLEUM ENGINEERS OF THE AMERICAN INSTITUTE OF MINING, METALLURGICAL AND PETROLEUM ENGINEERS - 10,31

SOCIETY OF PHOTOGRAPHIC SCIENTISTS AND ENGINEERS - 96

SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS

SOCIETY OF PLASTICS ENGINEERS

SOCIETY OF WOMEN ENGINEERS

STANDARDS ENGINEERS SOCIETY

UNITED ENGINEERING TRUSTEES - 97,98,99,100,101

MATERIALS SCIENCES

- American Ceramic Society, Inc.
- American Concrete Institute
- American Electroplaters Society Inc.
- American Foundrymens Society
- American Iron and Steel Institute
- American Society for Metals
- American Welding Society
- Federation of Societies for Paint Technology
- Forest Products Research Society
- The Metallurgical Society, Inc.
- Society of Wood Science and Technology
- Technical Association of the Pulp and Paper Industry

CHEMISTRY

- Electrochemical Society, Inc.
- American Leather Chemists Association
- American Institute of Chemists
- American Chemical Society
- American Association of Textile Chemists and Colorists

PHYSICS

- Society for Experimental Stress Analysis
- American Vacuum Society, Inc.
- American Nuclear Society, Inc.
- American Institute of Physics

ATMOSPHERE AND SPACE SCIENCES

- American Institute of Aeronautics and Astronautics - 3
- Air Pollution Control Association

AQUATIC SCIENCES

- Water Pollution Control Federation
- Marine Technology Society
- American Water Resources Association

MATHEMATICS AND STATISTICS

- American Federation of Information Processing Societies - 1
- Association for Computing Machinery
- Association of Educational Data Systems
- Industrial Mathematics Society
- Institute of Management Science - 2
- Operations Research Society of America
- Society for General Systems Research
- Society for Industrial and Applied Mathematics

BIOLOGICAL SCIENCES

- Society for Industrial Microbiology
- National Association of Sanitarians
- American Industrial Hygiene Association

GEO SCIENCES

- Society of Exploration Geophysicists
- Society of Economic Paleontologists and Mineralogists
- Society of Economic Geologists, Inc.
- American Geological Institute
- American Association of Petroleum Geologists

AGRICULTURAL SCIENCES

- Institute of Food Technologists

PSYCHOLOGICAL SCIENCES

- Society of Engineering Psychologists
- Human Factors Society

OTHER AFFILIATED ORGANIZATIONS

- American Council on Fertilizer Application - 62
- American Feed Manufacturing Association Committee on Standard for Feed Mining Test Procedures - 63
- American Forage and Grassland Council - 64
- Commission Internationale Du Genie Rural - 65
- Council on Pesticide Application - 66
- Farm and Industrial Equipment Institute - 67
- Industry Committee on Interior Wiring Design - 68
- Institute for the Certification of Engineering Technicians - 69
- Junior Engineering Technical Society - 70
- American Society of Metal Engineers - 26,71
- American Institute of Aeronautics and Astronautics - 27
- Simulation Councils - 28
- American Institute of Electrical Engineers - 101
- Engineering Council for Professional Development - 33,47,52
- American Documentary Institute - 34
- American Society for Engineering Education - 35
- Joint Automatic Control Council - 36
- National Bureau of Standards, National Safety Council-37
- National Council of State Board of Engineering Examiners - 38
- American Standards Association - 39,94
- United States National Committee of the World Power Conference - 40
- United States National Committee on Theoretical and Applied Mechanics - 41
- The American Sanitary Engineering - 42
- The Inter Society Coordinating Group for Energy Sources and Conversion - 43
- Joint Committee on Engineering in Medicine and Biology - 44
- Tripartite Committee on Coordination of Policies Relating to Private Practice Engineers (AICE, ASCE, CEC) - 102
- Joing Coordinating Committee on Relations of Engineers in Private Practice with Government (AICE, ASCE, ARRA, CES, NSPE) - 103
- American Council of Education - 53
- Scientific Agricultural Societies Policy Committee - 74
- United States of America Standards Institute - 75
- VITA - 76
- Society of Automotive Engineers Incorporated - 80
- Flight Society Foundation - 85
- National Safety Council - 103
- Constituent Society - 92

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

The Engineers Joint Council fulfills a central role in the information activities among engineering societies in cooperation with and with representation by other groups in the profession, specifically the United Engineering Trustees, Engineering Index, and the Engineering Societies Library.

The largest society in the field is the Institute of Electrical and Electronics Engineers with 160,000 members. The second largest society is the National Society of Professional Engineers with 66,000 members.

The oldest society in the engineering field is the American Society of Civil Engineers which was founded in 1852. Two new engineering societies have been established in the past decade; the Fluid Power Society in 1960, and the Society of Logistics Engineers in 1966.

Over the past decade, the Institute of Environmental Sciences has experienced the most rapid rate of growth, increasing membership by 257%. In terms of actual numbers of new members, the American Society of Mechanical Engineers ranks first with the addition of 10,631 members.

2. Chemistry

There are thirteen scientific societies in the United States primarily associated with chemistry, and fifty-three other societies are secondarily or indirectly related. Figure 2 graphically depicts all of the societies related to chemistry.

FIGURE 2

SOCIETIES RELATED TO CHEMISTRY

CHEMISTRY

AMERICAN ASSOCIATION OF CEREAL CHEMISTS
AMERICAN ASSOCIATION OF CLINICAL CHEMISTS - 2
AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS
AMERICAN CHEMICAL SOCIETY - 2,3
AMERICAN INSTITUTE OF CHEMISTS
AMERICAN LEATHER CHEMISTS ASSOCIATION
AMERICAN MICROCHEMICAL SOCIETY
AMERICAN OIL CHEMISTS SOCIETY - 2
AMERICAN SOCIETY OF BREWING CHEMISTS, INC. - 1,4,5,6,7,8
ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS - 1,9,10
ASSOCIATION OF VITAMIN CHEMISTS
ELECTROCHEMICAL SOCIETY, INC. - 2,3
SOCIETY OF COSMETIC CHEMISTS

AGRICULTURAL SCIENCES

- American Society of Agronomy
- American Society for Horticulture Science
- Institute of Food Technologists
- Soil Conservation Society of America
- Soil Science Society of America

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 3
- American Philosophical Society
- National Academy of Sciences, National Research Council - 2
- National Association for Research in Science Teaching
- Scientific Research Society of America
- Social Science Research Council

MATERIALS SCIENCES

- American Ceramic Society, Inc.
- American Electroplaters Society, Inc.
- American Foundrymens Society
- American Iron and Steel Institute
- American Society for Metals
- Federation of Societies for Paint Technology
- Fiber Society, Inc.
- Forest Products Research Society
- Society of Wood Science and Technology
- Technical Association of the Pulp and Paper Industry

AQUATIC SCIENCES

- Water Pollution Control Federation
- American Water Resources Association
- Marine Technological Society

GEO SCIENCES

- Geochemical Society
- Clay Minerals Society
- American Geophysical Union

PHYSICS

- Radiation Research Society
- Inter-Society Color Council, Inc.
- Fine Particles Society

ATMOSPHERIC AND SPACE SCIENCES

- Air Pollution Control Association
- American Institute of Aeronautics and Astronautics

OTHER AFFILIATED ORGANIZATIONS

- Master Brewers Assoc. of America - 4
- European Brewery Convention - 5
- U.S. Brewers Assoc. - Tech. Advisory Comm. - 6
- Malting Barley Improvement Assoc. - 7
- Brewing Industries Research Institute - 8
- American Society of Enologists - 9

ENGINEERING

- Society of Plastics Engineers
- National Association of Corrosion Engineers
- American Society for Quality Control, Inc.
- American Institute of Chemical Engineers
- American Society for Testing and Materials - 10

BIOLOGICAL SCIENCES

- American Academy of Microbiology, Inc.
- American Association of Bioanalysts
- American Association of Immunologists
- American Industrial Hygiene Association
- American Institute of Nutrition
- American Phytopathological Society
- American Society for Microbiology
- American Society of Biological Chemists, Inc.
- American Society of Pharmacognosy
- American Society of Plant Physiologists
- Biophysical Society
- Federation of American Societies for Experimental Biology
- Herb Society of America
- National Association of Sanitarians
- U.S. Pharmacopoeial Convention, Inc.
- American Society of Pharmacology and Experimental Therapeutics

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

In terms of its information programs, its discipline centrality, its membership, and its growth, the American Chemical Society is clearly the dominant and most central society in the discipline of chemistry.

The largest society in chemistry is the American Chemical Society with 115,500 members. The next largest, the American Association of Textile Chemists and Colorists, has only 8300 members.

The American Chemical Society is also the oldest society in the field, founded in 1876. There have been no new societies established in the field of chemistry in the past decade.

Over the past three years, the American Association of Cereal Chemists has had the most rapid growth with a 60% rise in membership. Over the past decade, the American Association of Clinical Chemists has had the greatest percentage increase in membership, rising by 93%. However, in actual numbers of new members, the American Chemical Society has experienced the greatest increase in membership with 26,800 new members in the past three years.

3. Physics

There are 19 scientific societies in the United States primarily concerned with physics and 35 other societies are indirectly or secondarily related. The societies associated with physics are graphically depicted in Figure 3.

FIGURE 3

SOCIETIES RELATED TO PHYSICS

PHYSICS

ACOUSTICAL SOCIETY OF AMERICA - 2,13
AMERICAN ASSOCIATION OF PHYSICS TEACHERS - 3
AMERICAN CRYSTALLOGRAPHIC ASSOCIATION - 10,13
AMERICAN INSTITUTE OF PHYSICS - 2,4,5,6,7,8,9,13
AMERICAN NUCLEAR SOCIETY, INC. - 13
AMERICAN PHYSICAL SOCIETY - 3,4,13,14
AMERICAN ROENTGEN RAY SOCIETY - 13
AMERICAN SOCIETY OF PHOTOGRAMMETRY - 11,13
AMERICAN VACUUM SOCIETY, INC. - 5,14
COBLENTZ SOCIETY, INC.
ELECTRON MICROSCOPY SOCIETY OF AMERICA - 6,12,14
FINE PARTICLES SOCIETY
INTER-SOCIETY COLOR COUNCIL, INC. - 1,7
OPTICAL SOCIETY OF AMERICA, INC. - 13
RADIATION RESEARCH SOCIETY - 13
SOCIETY FOR APPLIED SPECTROSCOPY - 8
SOCIETY FOR EXPERIMENTAL STRESS ANALYSIS
SOCIETY OF RHEOLOGY - 9
COMBUSTION INSTITUTE

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 14
- American Philosphical Society
- National Academy of Sciences, National Research Council - 13
- National Association for Research in Science Teaching
- Scientific Research Society of America

ATMOSPHERE AND SPACE SCIENCES

- Solar Energy Society
- Meteoritical Society
- American Institute of Aeronautics and Astronautics
- American Astronomical Society
- American Association of Variable Star Observers

AQUATIC SCIENCES

- American Water Resources Association
- Marine Technology Society

GEOSCIENCES

- Society of Exploration Geophysicists
- American Geophysical Union

ENGINEERING

- American Institute of Chemical Engineers
- American Society of Heating, Refrigerator and Air-Conditioning Engineers, Inc.
- American Society of Mechanical Engineers
- Audio Engineering Society, Inc.
- Fluid Power Society
- Illuminating Engineering Society
- Institute of Electrical and Electronics Engineers, Inc.
- Institute of Environmental Sciences
- Instrument Society of America
- Radio Technical Commission for Aeronautics
- Society for Non-Destructive Testing, Inc.
- Society of Motion Picture and Television Engineers - 1
- Society of Photographic Scientists and Engineers
- Society of Photo-Optical Instrument Engineers

BIOLOGICAL SCIENCES

- Biophysical Society
- Health Physics Society
- American Industrial Hygiene Association

CHEMISTRY

- Electrochemical Society, Inc.
- American Chemical Society

MATERIALS SCIENCES

- American Iron and Steel Institute

OTHER AFFILIATED ORGANIZATIONS

- Deleware Valley Association of Crystallagraphers - 10
- International Society for Photogrammetry - 11
- International Federation of Electron Microscope Societies - 12

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

In physics, the American Institute of Physics (AIP) is the central society. It was founded in 1931 by five of its current member societies. The AIP is now an umbrella society with seven member societies and eighteen affiliated societies. Under AIP's constitution, individual members of the Member Societies are automatically members of the Institute, which accounts for its 35,500 members.

In terms of individual memberships, the single largest society in physics is the American Physical Society with 22,953; followed by the American Association of Physics Teachers with 11,000 members.

The oldest society in the field is the American Physical Society which was founded in 1899. New societies established within the past decade are the Society for Applied Spectroscopy founded in 1958 and the Fine Particles Society founded in 1968.

Over the past three years, the Coblentz Society, Inc., has had the most rapid rate of increase in membership, rising by 81%. Over the past decade, the American Vacuum Society has had the largest percentage increase in membership, rising by 1050%. In terms of actual numbers, the American Association of Physics Teachers ranks first with the addition of 3,526 new members over the past three years.

The major role in science information activities in physics is that of the American Institute of Physics. Its primary publications represent 35 percent of the world's physics literature. It conducts research towards the development of an information system for physics, and is developing tools for the analysis and retrieval of information.

4. Geosciences

There are 21 scientific societies in the United States primarily concerned with the geosciences; 25 other societies are indirectly or secondarily related. The societies associated with the geosciences are graphically depicted in Figure 4.

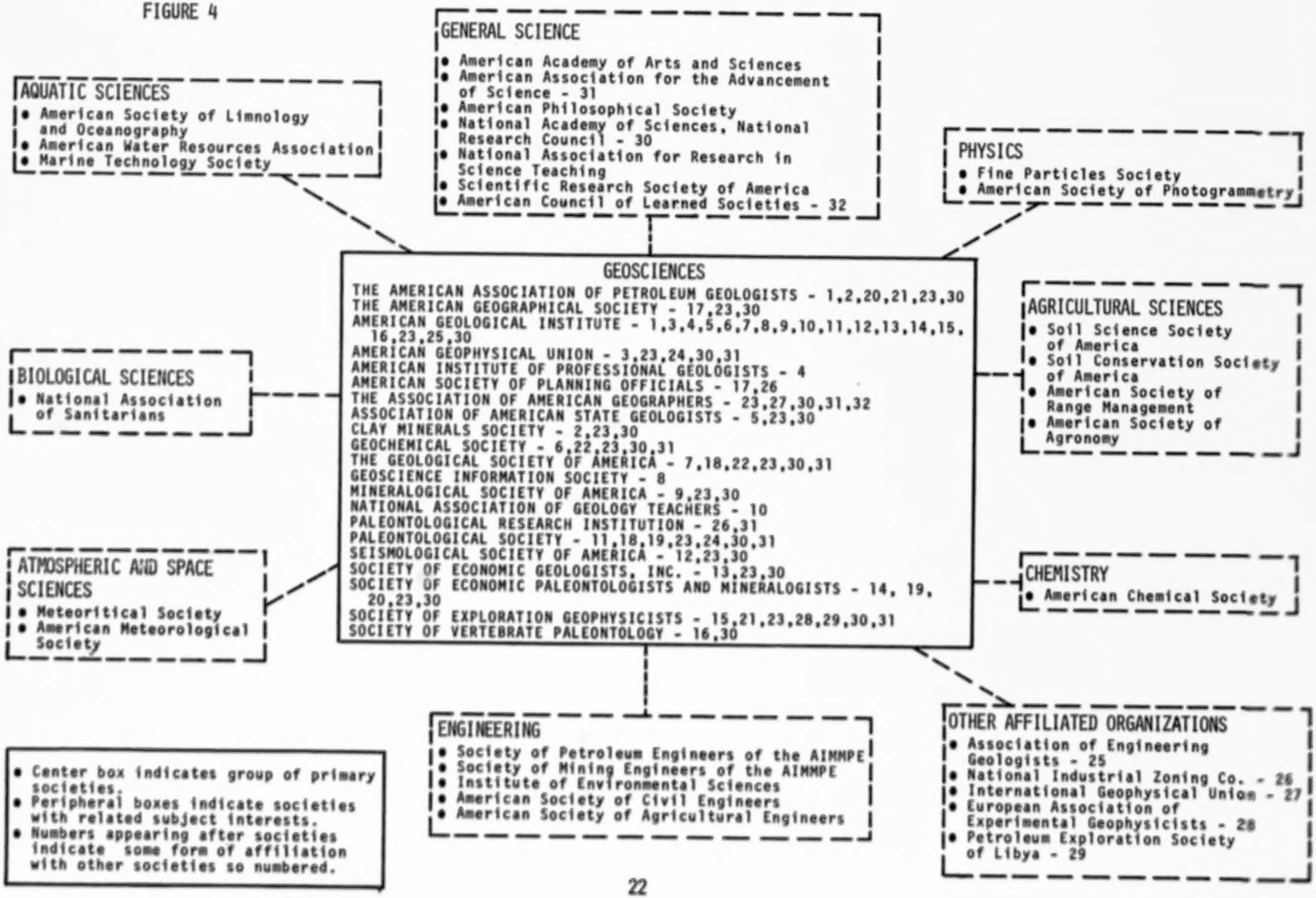
In the geosciences, the American Geological Institute (AGI) is the central society, which is in fact its primary purpose for being. The AGI is an umbrella society, whose members are 16 other gelogical societies which look to the AGI to coordinate and supplement the work of member societies both within the geological sciences, and between the geological sciences and the rest of the scientific community. All 16 member societies of the AGI are included in the primary field of geosciences shown in Figure 4, and represent a combined membership of approximately 30,000 geological scientists.

In terms of individual memberships, the single largest society in the geosciences is the American Association of Petroleum Geologists with 15,000 members, followed by the American Geophysical Union with 9,600, and the Geological Society of America with 7,200 members.

The oldest society in the field is the American Geographical Society which was founded in 1852. New societies established within the past decade are the American Institute of Professional Geologists founded in 1963, the Clay Minerals Society founded in 1963, and the Geoscience Information Society founded in 1965.

SOCIETIES RELATED TO THE GEOSCIENCES

FIGURE 4



GEOSCIENCES

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS - 1,2,20,21,23,30
THE AMERICAN GEOGRAPHICAL SOCIETY - 17,23,30
AMERICAN GEOLOGICAL INSTITUTE - 1,3,4,5,6,7,8,9,10,11,12,13,14,15,16,23,25,30
AMERICAN GEOPHYSICAL UNION - 3,23,24,30,31
AMERICAN INSTITUTE OF PROFESSIONAL GEOLOGISTS - 4
AMERICAN SOCIETY OF PLANNING OFFICIALS - 17,26
THE ASSOCIATION OF AMERICAN GEOGRAPHERS - 23,27,30,31,32
ASSOCIATION OF AMERICAN STATE GEOLOGISTS - 5,23,30
CLAY MINERALS SOCIETY - 2,23,30
GEOCHEMICAL SOCIETY - 6,22,23,30,31
THE GEOLOGICAL SOCIETY OF AMERICA - 7,18,22,23,30,31
GEOSCIENCE INFORMATION SOCIETY - 8
MINERALOGICAL SOCIETY OF AMERICA - 9,23,30
NATIONAL ASSOCIATION OF GEOLOGY TEACHERS - 10
PALEONTOLOGICAL RESEARCH INSTITUTION - 26,31
PALEONTOLOGICAL SOCIETY - 11,18,19,23,24,30,31
SEISMOLOGICAL SOCIETY OF AMERICA - 12,23,30
SOCIETY OF ECONOMIC GEOLOGISTS, INC. - 13,23,30
SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS - 14, 19, 20,23,30
SOCIETY OF EXPLORATION GEOPHYSICISTS - 15,21,23,28,29,30,31
SOCIETY OF VERTEBRATE PALEONTOLOGY - 16,30

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 31
- American Philosophical Society
- National Academy of Sciences, National Research Council - 30
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 32

AQUATIC SCIENCES

- American Society of Limnology and Oceanography
- American Water Resources Association
- Marine Technology Society

PHYSICS

- Fine Particles Society
- American Society of Photogrammetry

BIOLOGICAL SCIENCES

- National Association of Sanitarians

AGRICULTURAL SCIENCES

- Soil Science Society of America
- Soil Conservation Society of America
- American Society of Range Management
- American Society of Agronomy

ATMOSPHERIC AND SPACE SCIENCES

- Meteoritical Society
- American Meteorological Society

CHEMISTRY

- American Chemical Society

ENGINEERING

- Society of Petroleum Engineers of the AIMMPE
- Society of Mining Engineers of the AIMMPE
- Institute of Environmental Sciences
- American Society of Civil Engineers
- American Society of Agricultural Engineers

OTHER AFFILIATED ORGANIZATIONS

- Association of Engineering Geologists - 25
- National Industrial Zoning Co. - 26
- International Geophysical Union - 27
- European Association of Experimental Geophysicists - 28
- Petroleum Exploration Society of Libya - 29

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

Over the past three years, the Association of American Geographers has had the most rapid rate of increase in membership, rising by 119%. Over the past decade, the National Association of Geology Teachers has had the largest percentage increase in membership, rising by 324%. In terms of actual numbers, the Association of American Geographers ranks first in the field with the addition of 2446 new members over the past three years.

In terms of the breadth of subject coverage and comprehensiveness of service, several societies play major roles in the publication and dissemination of scientific information, particularly the American Geophysical Union, the Geological Society of America, and the Mineralogical Society of America. The Geoscience Information Society plays a special role in information affairs since its principal purpose is to initiate, aid, and improve the exchange of information in the earth sciences.

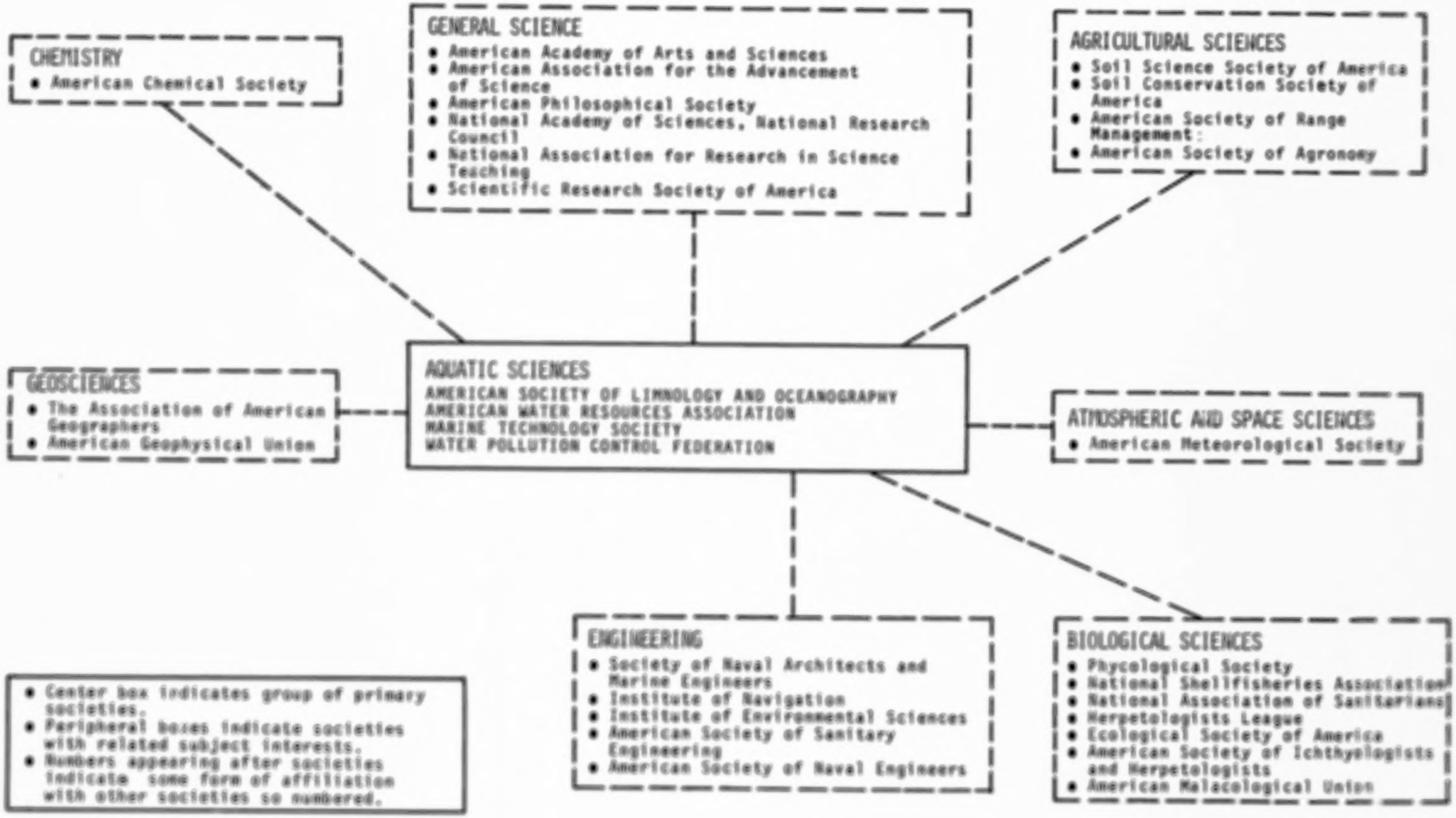
The major role in science information activities in the geosciences is that of the American Geological Institute which not only carries out a major primary, secondary, and special publication program of its own, but is also currently assuming responsibility for the development of a coordinated science information program for most of the geosciences.

5. Aquatic Sciences

There are four scientific societies in the United States primarily concerned with the aquatic sciences, and twenty-six others which are concerned with the field secondarily or indirectly. All of the societies related to the aquatic sciences are graphically depicted in Figure 5.

FIGURE 5

SOCIETIES RELATED TO THE AQUATIC SCIENCES



AQUATIC SCIENCES

AMERICAN SOCIETY OF LIMNOLOGY AND OCEANOGRAPHY
AMERICAN WATER RESOURCES ASSOCIATION
MARINE TECHNOLOGY SOCIETY
WATER POLLUTION CONTROL FEDERATION

CHEMISTRY

- American Chemical Society

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science
- American Philosophical Society
- National Academy of Sciences, National Research Council
- National Association for Research in Science Teaching
- Scientific Research Society of America

AGRICULTURAL SCIENCES

- Soil Science Society of America
- Soil Conservation Society of America
- American Society of Range Management:
- American Society of Agronomy

GEOSCIENCES

- The Association of American Geographers
- American Geophysical Union

ATMOSPHERIC AND SPACE SCIENCES

- American Meteorological Society

ENGINEERING

- Society of Naval Architects and Marine Engineers
- Institute of Navigation
- Institute of Environmental Sciences
- American Society of Sanitary Engineering
- American Society of Naval Engineers

BIOLOGICAL SCIENCES

- Phycological Society
- National Shellfisheries Association
- National Association of Sanitarians
- Herpetologists League
- Ecological Society of America
- American Society of Ichthyologists and Herpetologists
- American Malacological Union

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

At present, no single society appears to be dominant or central in the aquatic sciences, but the American Water Resources Association would appear to have the greatest potential for assuming such a role.

The largest society in the field is the Water Pollution Control Federation, with 14,600 members. The other three societies have memberships in the 1,000 - 2,000 range.

The Water Pollution Control Federation is also the oldest society in the field, founded in 1928. Reflecting the rapid increase in the interest and activity in aquatic sciences, two of the four societies have been established in the past decade: the Marine Technology Society founded in 1963, and the American Water Resources Association founded in 1964.

The fastest growing society in terms of rate of growth is the American Society of Limnology and Oceanography with an increase in membership of 31 percent over the last three years, and 108 percent over the past decade. In terms of actual members, it also has shown the most growth over the past three years with the addition of 427 members.

The most extensive and comprehensive science information program is that of the American Water Resources Association; however, the four societies identified in the aquatic societies all appear to have relatively separate and distinct areas of interest which relate, but do not overlap.

6. Atmospheric and Space Sciences

There are seven* scientific societies in the United States primarily concerned with atmospheric and space sciences; 19 other societies are indirectly or secondarily concerned with atmospheric and space sciences. All of these societies are graphically depicted in Figure 6.

In terms of individual memberships, the single largest society in the atmospheric and space sciences is the American Institute of Aeronautics and Astronautics with about 40,000 members. The second largest is the American Meteorological Society with 9,000 members.

At the present time, no single organization appears to enjoy a natural position of centrality in the field of atmospheric and space sciences. This may be partly due to the fact that the category contrived for this study does not represent a natural marriage of subject and disciplinary interests. It may also be partly due to the fact that some of these societies have traditional bonds with the other major disciplinary families, for example - the geosciences, which are still reflected in their affiliations and orientation. From the standpoint of its membership and its information programs, as well as its subject coverage, the leading candidate for the society to assume a central position in the atmospheric and space sciences would appear to be the American Institute of Aeronautics and Astronautics.

The oldest society in the field is the American Astronomical Society which was founded in 1897. Despite the rapidly growing emphasis on and interest in atmospheric and space sciences, no new societies have been

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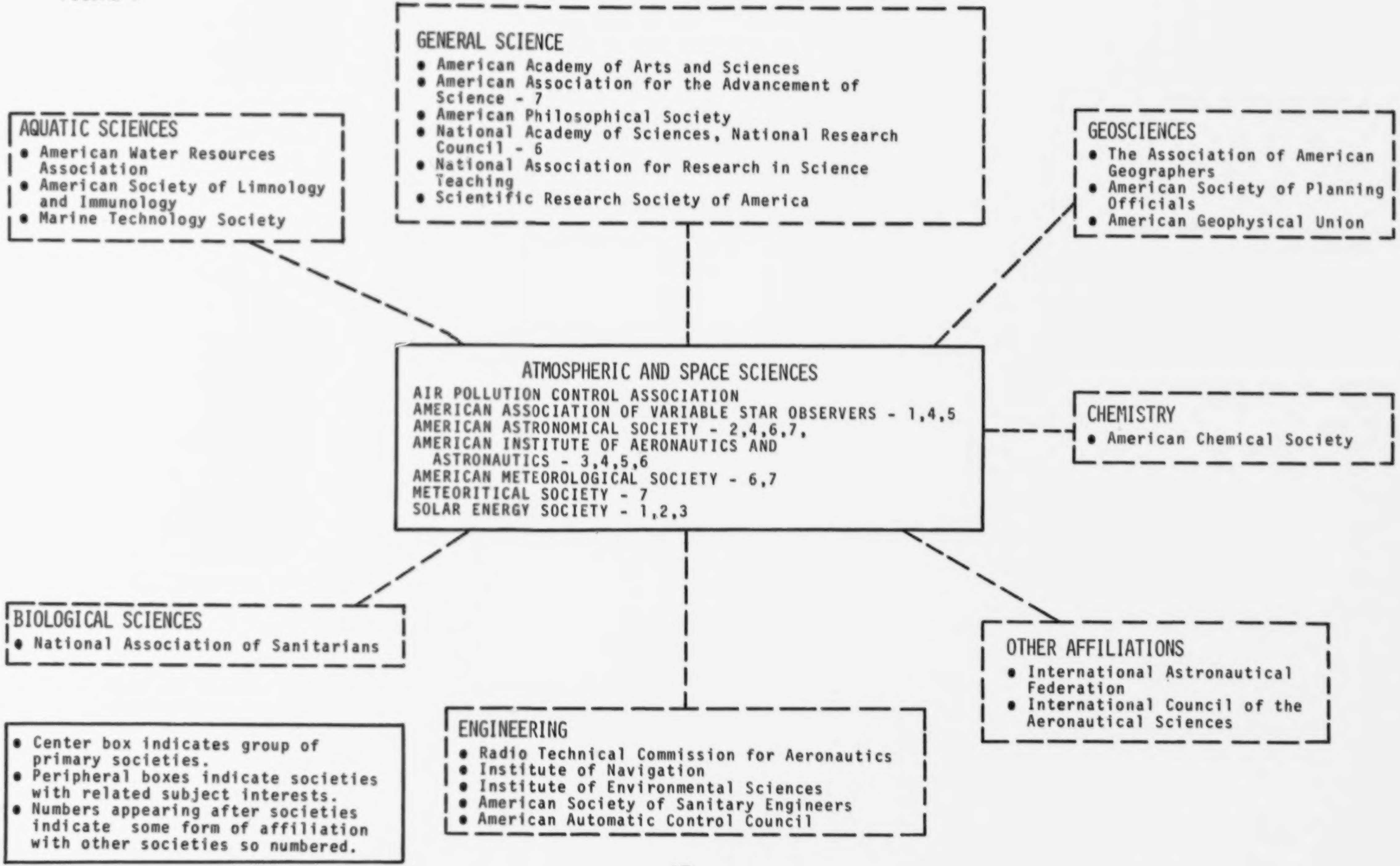
* The American Astronautical Society is not included in the seven because the information required for its validation was received too late for inclusion.

SOCIETIES RELATED TO THE ATMOSPHERIC AND SPACE SCIENCES

FIGURE 6



ATMOSPHERIC AND SPACE SCIENCES
AIR POLLUTION CONTROL ASSOCIATION
AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS - 1,4,5
AMERICAN ASTRONOMICAL SOCIETY - 2,4,6,7,
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS - 3,4,5,6
AMERICAN METEOROLOGICAL SOCIETY - 6,7
METEORITICAL SOCIETY - 7
SOLAR ENERGY SOCIETY - 1,2,3

GENERAL SCIENCE
- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 7
- American Philosophical Society
- National Academy of Sciences, National Research Council - 6
- National Association for Research in Science Teaching
- Scientific Research Society of America

AQUATIC SCIENCES
- American Water Resources Association
- American Society of Limnology and Immunology
- Marine Technology Society

GEOSCIENCES
- The Association of American Geographers
- American Society of Planning Officials
- American Geophysical Union

CHEMISTRY
- American Chemical Society

BIOLOGICAL SCIENCES
- National Association of Sanitarians

ENGINEERING
- Radio Technical Commission for Aeronautics
- Institute of Navigation
- Institute of Environmental Sciences
- American Society of Sanitary Engineers
- American Automatic Control Council

OTHER AFFILIATIONS
- International Astronautical Federation
- International Council of the Aeronautical Sciences

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

established in the past decade although the American Institute of Aeronautics and Astronautics was formed in 1963, by the merger of the American Rocket Society and the Institute of Aerospace Sciences.

The fastest growing society over the past three years has been the American Institute of Aeronautics and Astronautics which has increased membership by 94 percent. Over the past decade, the American Astronomical Society has had the highest rate of growth with 131 percent increase in membership. In terms of actual numbers, the American Institute of Aeronautics and Astronautics ranks first with the addition of the most new members over the past three years.

All societies in the field publish some form of periodic scientific information; however, the most extensive science information program covering the broadest range of subject interests in that of the American Institute of Aeronautics and Astronautics (AIAA). The information program of the AIAA is supported by and coordinated with that of the National Aeronautics and Space Administration, and thus provides comprehensive coverage of the open literature and report documentation related to the space sciences.

7. Materials Sciences

There are 13 scientific societies in the United States primarily concerned with the materials sciences and 26 other societies are indirectly or secondarily related. The societies associated with the materials sciences are graphically depicted in Figure 7.

FIGURE 7

SOCIETIES RELATED TO MATERIALS SCIENCE

CHEMISTRY

- Electrochemical Society, Inc.
- American Leather Chemists Association
- American Chemical Society
- American Association of Textile Chemists and Colorists

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science
- American Philosophical Society
- National Academy of Sciences, National Research Council
- National Association for Research in Science Teaching
- Scientific Research Society of America

ENGINEERING

- American Institute of Mining, Metalurgical and Petroleum Engineers, Inc. - 1
- American Society for Quality Control, Inc.
- American Society for Testing and Materials - 3,7
- American Society of Lubrication Engineers
- American Society of Tool and Manufacturing Engineers
- Association of Iron and Steel Engineers
- Building Research Institute
- Coordinating Research Council, Inc.
- National Association of Corrosion Engineers
- National Institute of Ceramic Engineers - 2,5
- Society for Non-Destructive Testing, Inc.
- Society of Aeronautical Weight Engineers
- Society of Die Casting Engineers, Inc.
- Society of Fire Protection Engineers
- Society of Plastics Engineers - 4,8
- Engineers Joint Council - 19

MATERIALS SCIENCES

AMERICAN CERAMIC SOCIETY, INC. - 2,5,6,20
AMERICAN CONCRETE INSTITUTE
AMERICAN ELECTROPLATERS SOCIETY, INC.
AMERICAN FOUNDRYMENS SOCIETY
AMERICAN IRON AND STEEL INSTITUTE - 6,20
AMERICAN SOCIETY FOR METALS - 6,20
AMERICAN WELDING SOCIETY - 6,20
FEDERATION OF SOCIETIES FOR PAINT TECH. - 3,4,7,8,9,10
FIBER SOCIETY, INC.
FOREST PRODUCTS RESEARCH SOCIETY
THE METALLURGICAL SOCIETY OF A.I.M.E. - 1,19
SOCIETY OF WOOD SCIENCE AND TECHNOLOGY - 19
TECHNICAL ASSOCIATION OF THE PULP AND PAPER INDUSTRY

OTHER AFFILIATED ORGANIZATIONS

- Inter-Society Color Council - 9
- National Fire Protection Association - 10

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

The American Society for Metals has the most extensive information activity, but none of the societies has a central or comprehensive role in the field of materials sciences. All but a single (the smallest) society maintain an active primary publication activity.

In terms of individual memberships, the single largest society in the materials sciences is the American Society for Metals with 32,000 members, followed by the American Welding Society with 18,500.

The oldest society in the field is the American Iron and Steel Institute which was founded in 1855. One society was established within the past decade, the Society of Wood Science and Technology founded in 1958.

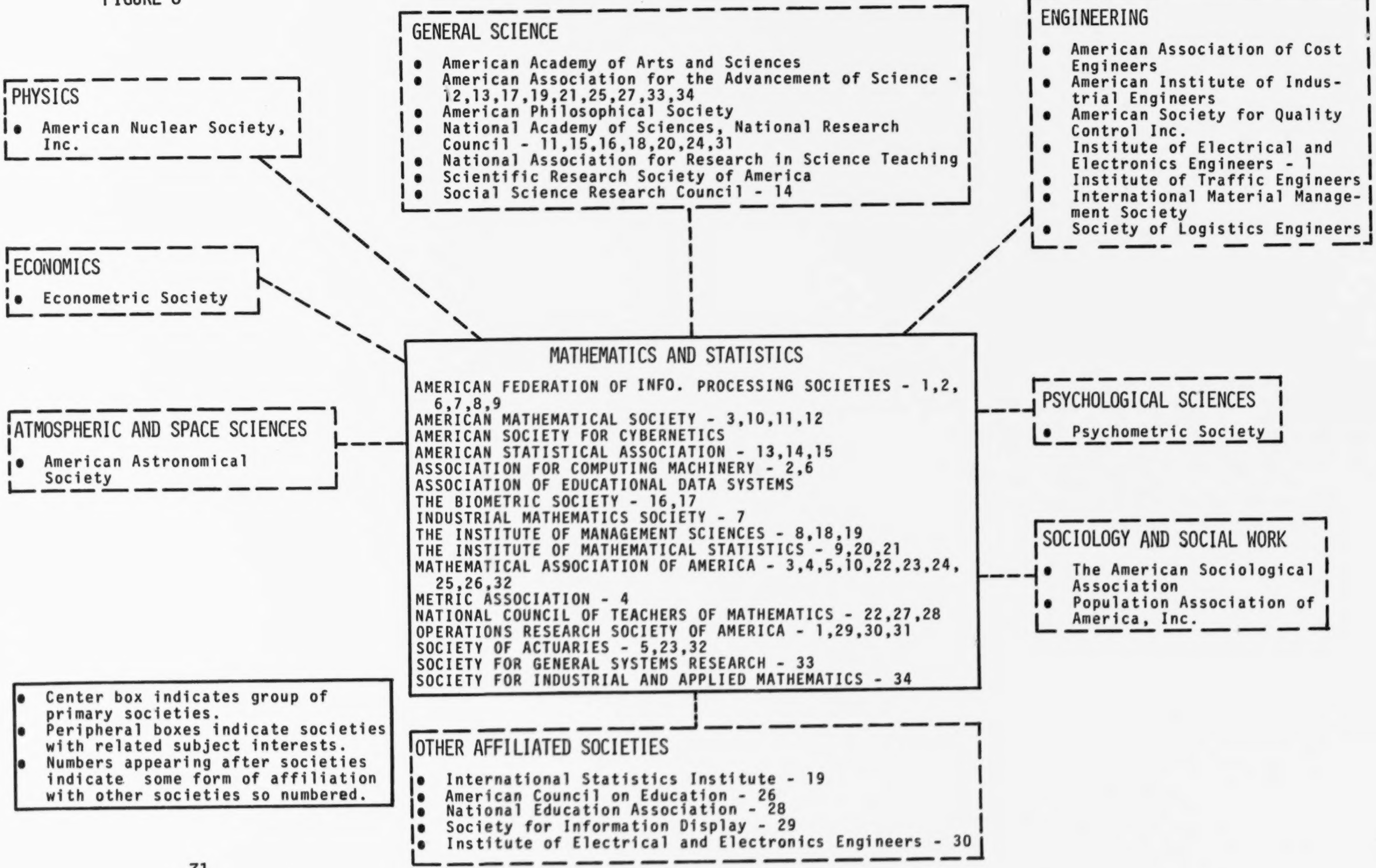
Over the past three years, the Society of Wood Science and Technology has had the most rapid rate of increase in membership, rising by 69%. In terms of actual numbers, the American Welding Society ranks first in the field with the addition of 4500 new members over the past three years.

8. Mathematics and Statistics

There are seventeen scientific societies in the United States primarily concerned with mathematics and statistics. Twenty other societies are secondarily or indirectly related. All of the societies associated with mathematics and statistics are graphically depicted in Figure 8.

FIGURE 8

SOCIETIES RELATED TO MATHEMATICS AND STATISTICS



GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 12,13,17,19,21,25,27,33,34
- American Philosophical Society
- National Academy of Sciences, National Research Council - 11,15,16,18,20,24,31
- National Association for Research in Science Teaching
- Scientific Research Society of America
- Social Science Research Council - 14

ENGINEERING

- American Association of Cost Engineers
- American Institute of Industrial Engineers
- American Society for Quality Control Inc.
- Institute of Electrical and Electronics Engineers - 1
- Institute of Traffic Engineers
- International Material Management Society
- Society of Logistics Engineers

PHYSICS

- American Nuclear Society, Inc.

ECONOMICS

- Econometric Society

ATMOSPHERIC AND SPACE SCIENCES

- American Astronomical Society

MATHEMATICS AND STATISTICS

AMERICAN FEDERATION OF INFO. PROCESSING SOCIETIES - 1,2,6,7,8,9
AMERICAN MATHEMATICAL SOCIETY - 3,10,11,12
AMERICAN SOCIETY FOR CYBERNETICS
AMERICAN STATISTICAL ASSOCIATION - 13,14,15
ASSOCIATION FOR COMPUTING MACHINERY - 2,6
ASSOCIATION OF EDUCATIONAL DATA SYSTEMS
THE BIOMETRIC SOCIETY - 16,17
INDUSTRIAL MATHEMATICS SOCIETY - 7
THE INSTITUTE OF MANAGEMENT SCIENCES - 8,18,19
THE INSTITUTE OF MATHEMATICAL STATISTICS - 9,20,21
MATHEMATICAL ASSOCIATION OF AMERICA - 3,4,5,10,22,23,24,25,26,32
METRIC ASSOCIATION - 4
NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS - 22,27,28
OPERATIONS RESEARCH SOCIETY OF AMERICA - 1,29,30,31
SOCIETY OF ACTUARIES - 5,23,32
SOCIETY FOR GENERAL SYSTEMS RESEARCH - 33
SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS - 34

PSYCHOLOGICAL SCIENCES

- Psychometric Society

SOCIOLOGY AND SOCIAL WORK

- The American Sociological Association
- Population Association of America, Inc.

OTHER AFFILIATED SOCIETIES

- International Statistics Institute - 19
- American Council on Education - 26
- National Education Association - 28
- Society for Information Display - 29
- Institute of Electrical and Electronics Engineers - 30

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

From the standpoint of discipline coverage and information activities, the American Mathematical Society is the most central society within the field; however, the American Mathematical Society is not particularly dominant with respect to size of membership, affiliations with other societies, or current growth.

Within the field of mathematics and statistics, the single largest society is the National Council of Teachers of Mathematics with 76,000 members. The second largest society is the Association for Computing Machinery with 21,000 members.

The oldest society is the American Statistical Association which was founded in November 1839. Two new societies, formed in the last decade, are the Association of Educational Data Systems (1962) and the American Society for Cybernetics (1966).

The fastest growing society in the field at the present time is the National Council of Teachers of Mathematics which has increased membership by 153% the last three years. Over the past decade, the Association for Computing Machinery has increased membership 337%. In terms of actual number of new members in the past three years, the National Council of Teachers of Mathematics ranks highest.

Several societies play prominent roles in the publication and dissemination of scientific information. Prominent are the Association for Computing Machinery, the Operations Research Society of America, and the Society for Industrial Applied Mathematics; however, the single most comprehensive primary and secondary publication program is that of the American Mathematical Society.

9. Agricultural Sciences

There are 17 scientific societies in the United States principally concerned with the agricultural sciences; 31 other societies are secondarily or indirectly related. All of these societies are illustrated in Figure 9.

In the agricultural sciences, there is no single scientific society with subject interests spanning the entire field such as exists in chemistry and mathematics. Neither is there a formal affiliation existing among most of the societies, although there are numerous examples of specific affiliations among two or three societies.

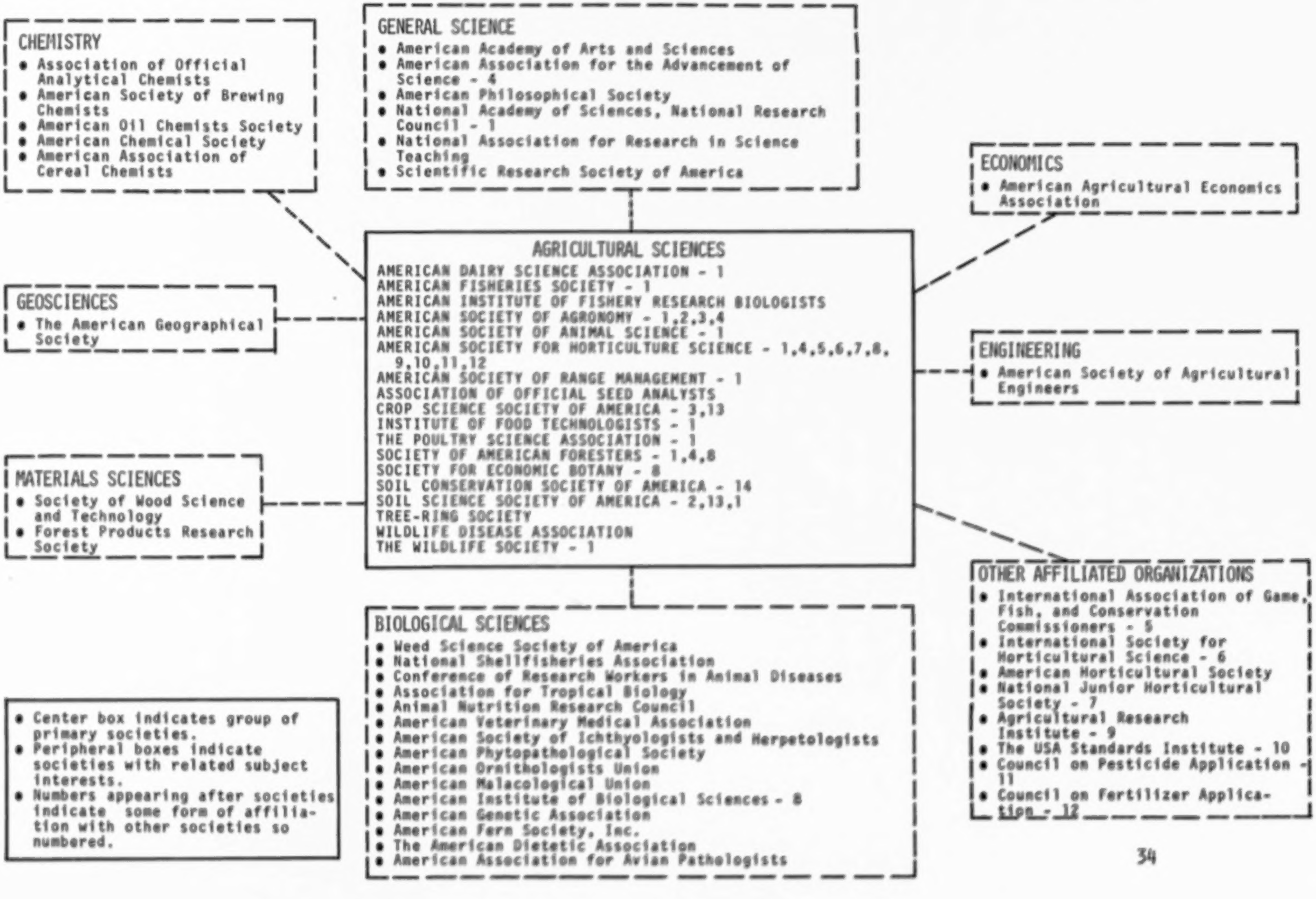
The largest society in the field is the Society of American Foresters with 16,225 members, followed by the Soil Conservation Society of America with 11,400 members.

The American Fisheries Society which was founded in 1870 is the oldest society in the field. No new society has been established in the past decade.

Over the past three years the Association of Seed Analysts has had the most rapid rate of growth with a 75% increase in membership. Over the past decade, the American Institute of Fishery Research Biologists has grown the fastest with 167% increase in its membership. Over the past three years, the Wildlife Society has added the most new members with 2,145 new members, followed by the Society of American Foresters which has added 1,990 new members.

FIGURE 9

SOCIETIES RELATED TO AGRICULTURAL SCIENCES



CHEMISTRY

- Association of Official Analytical Chemists
- American Society of Brewing Chemists
- American Oil Chemists Society
- American Chemical Society
- American Association of Cereal Chemists

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 4
- American Philosophical Society
- National Academy of Sciences, National Research Council - 1
- National Association for Research in Science Teaching
- Scientific Research Society of America

ECONOMICS

- American Agricultural Economics Association

GEOSCIENCES

- The American Geographical Society

AGRICULTURAL SCIENCES

AMERICAN DAIRY SCIENCE ASSOCIATION - 1
AMERICAN FISHERIES SOCIETY - 1
AMERICAN INSTITUTE OF FISHERY RESEARCH BIOLOGISTS
AMERICAN SOCIETY OF AGRONOMY - 1,2,3,4
AMERICAN SOCIETY OF ANIMAL SCIENCE - 1
AMERICAN SOCIETY FOR HORTICULTURE SCIENCE - 1,4,5,6,7,8,9,10,11,12
AMERICAN SOCIETY OF RANGE MANAGEMENT - 1
ASSOCIATION OF OFFICIAL SEED ANALYSTS
CROP SCIENCE SOCIETY OF AMERICA - 3,13
INSTITUTE OF FOOD TECHNOLOGISTS - 1
THE POULTRY SCIENCE ASSOCIATION - 1
SOCIETY OF AMERICAN FORESTERS - 1,4,8
SOCIETY FOR ECONOMIC BOTANY - 8
SOIL CONSERVATION SOCIETY OF AMERICA - 14
SOIL SCIENCE SOCIETY OF AMERICA - 2,13,1
TREE-RING SOCIETY
WILDLIFE DISEASE ASSOCIATION
THE WILDLIFE SOCIETY - 1

ENGINEERING

- American Society of Agricultural Engineers

MATERIALS SCIENCES

- Society of Wood Science and Technology
- Forest Products Research Society

OTHER AFFILIATED ORGANIZATIONS

- International Association of Game, Fish, and Conservation Commissioners - 5
- International Society for Horticultural Science - 6
- American Horticultural Society
- National Junior Horticultural Society - 7
- Agricultural Research Institute - 9
- The USA Standards Institute - 10
- Council on Pesticide Application - 11
- Council on Fertilizer Application - 12

BIOLOGICAL SCIENCES

- Weed Science Society of America
- National Shellfisheries Association
- Conference of Research Workers in Animal Diseases
- Association for Tropical Biology
- Animal Nutrition Research Council
- American Veterinary Medical Association
- American Society of Ichthyologists and Herpetologists
- American Phytopathological Society
- American Ornithologists Union
- American Malacological Union
- American Institute of Biological Sciences - 8
- American Genetic Association
- American Fern Society, Inc.
- The American Dietetic Association
- American Association for Avian Pathologists

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

No single society stands out in the agricultural sciences as performing science information functions broadly related to the entire field. The major bibliographic tool is the Bibliography of Agriculture produced by the National Agricultural Library and not by a scientific society.

10. Biological Sciences

There are 68 societies in the United States primarily concerned with the biological sciences. There are 48 other societies secondarily or indirectly related to biological sciences. All of these societies are illustrated in Figure 10.

The American Institute of Biological Sciences (AIBS) appears to be the central society in the field primarily because of its breadth of subject coverage and its affiliations. Its affiliations include 43 other biological societies as members of the AIBS, thus making AIBS, in effect, an umbrella society in the field.

The American Dietetic Association is the largest society in the biological sciences with 19,400 members. The second largest is the American Veterinary Medical Association with 18,300 members. The third largest society is the American Institute of Biological Sciences with 13,600 members (individuals).

The oldest society in the field is the United States Pharmacopoeial Convention, Inc., founded in 1820. During the past decade, four new societies have been founded in the biological sciences; namely, the American Society for Cell Biology founded in 1960, the Society of Nematologists founded in 1961, the International Organization of Plant Biosystematists founded in 1962, and the Association for Tropical Biology founded in 1963.

SOCIETIES RELATED TO THE BIOLOGICAL SCIENCES

FIGURE 10

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 42
- American Philosophical Society
- National Academy of Sciences, National Research Council - 41
- National Association for Research in Science Teaching
- Scientific Research Society of America

PSYCHOLOGICAL SCIENCES

- Society for Research in Child Development, Inc.
- Society of Biological Psychiatry
- Psychonomic Society
- Human Factors Society
- American Psychopathological Association

BIOLOGICAL SCIENCES

AMERICAN ACADEMY OF MICROBIOLOGY, INC. - 3,40
AMERICAN ASSOCIATION OF ANATOMISTS - 6,41,42,43
AMERICAN ASSOCIATION FOR AVIAN PATHOLOGISTS - 5
AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE - 41, 44,45,46
AMERICAN ASSOCIATION OF BIOANALYSTS - 5,41,42
AMERICAN ASSOCIATION OF IMMUNOLOGISTS - 41,42
AMERICAN BRYOLOGICAL SOCIETY - 7,27,42
THE AMERICAN DIETETIC ASSOCIATION - 47
AMERICAN ENTOMOLOGICAL SOCIETY
AMERICAN EUGENICS SOCIETY
AMERICAN FERN SOCIETY, INC. - 8
AMERICAN GENETIC ASSOCIATION - 9,41,42
AMERICAN INDUSTRIAL HYGIENE ASSOCIATION - 28
AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES - 1,2,3,4,5,6,7, 8,9,10,12,13,14,16,18,21,22,23,24,25,26,30,32,33,34,35,36, 37,38,39
AMERICAN INSTITUTE OF NUTRITION - 29,41,42
AMERICAN MALACOLOGICAL UNION
AMERICAN MICROSCOPICAL SOCIETY - 10,42
AMERICAN ORNITHOLOGISTS' UNION - 11,48
AMERICAN PHYSIOLOGICAL SOCIETY - 12,13,38,41,42,49,50, 51,52
AMERICAN PHYTOPATHOLOGICAL SOCIETY - 14,41,48
AMERICAN SOCIETY FOR CELL BIOLOGY - 15,41
AMERICAN SOCIETY FOR MICROBIOLOGY
AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, INC. - 16,41,42
AMERICAN SOCIETY OF HUMAN GENETICS - 17,41,42
AMERICAN SOCIETY OF ICHTHYOLOGISTS AND HERPETOLOGISTS - 41
AMERICAN SOCIETY OF MAMMALOGISTS - 41
AMERICAN SOCIETY OF NATURALISTS - 18
AMERICAN SOCIETY OF PARASITOLOGISTS - 19,41,42
AMERICAN SOCIETY OF PHARMACOGNOSY
AMERICAN SOCIETY OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, INC. - 20,41
AMERICAN SOCIETY OF PLANT PHYSIOLOGISTS - 21,41,42
AMERICAN SOCIETY OF PLANT TAXONOMISTS - 22,41,42
AMERICAN SOCIETY OF ZOOLOGISTS - 23,41,42
AMERICAN VETERINARY MEDICAL ASSOCIATION - 5,41
ANIMAL NUTRITION RESEARCH COUNCIL
ASSOCIATION FOR TROPICAL BIOLOGY
BIOPHYSICAL SOCIETY - 41
BOTANICAL SOCIETY OF AMERICA, INC. - 24,41,42
CONFERENCE OF RESEARCH WORKERS IN ANIMAL DISEASES
ECOLOGICAL SOCIETY OF AMERICA - 25,41,42
ENTOMOLOGICAL SOCIETY OF AMERICA - 26,41,42
FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY - 13,17,20,27,29,30,31,41
GENETICS SOCIETY OF AMERICA - 41,42
GERONTOLOGICAL SOCIETY, INC.
HEALTH PHYSICS SOCIETY - 41
HERB SOCIETY OF AMERICA
HERPETOLOGISTS LEAGUE - 41
INTERNATIONAL ORGANIZATION OF PLANT BIOSYSTEMATISTS
LEPIDOPTERISTS SOCIETY - 32,41
MYCOLOGICAL SOCIETY OF AMERICA - 33,41
NATIONAL ASSOCIATION OF BIOLOGY TEACHERS, INC. - 34,35, 41
NATIONAL ASSOCIATION OF SANITARIANS - 41
NATIONAL SHELLFISHERIES ASSOCIATION - 14
NATIONAL SOCIETY FOR MEDICAL RESEARCH - 42
PHYCOLOGICAL SOCIETY OF AMERICA - 36,41
SOCIETY FOR DEVELOPMENTAL BIOLOGY - 37,41
SOCIETY FOR INDUSTRIAL MICROBIOLOGY
SOCIETY FOR THE SCIENTIFIC STUDY OF SEX
SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE
SOCIETY OF GENERAL PHYSIOLOGISTS - 38-41
SOCIETY OF NEMATOLOGISTS - 39,41
SOCIETY OF PROTOZOOLOGISTS - 41
SOCIETY OF SYSTEMATIC ZOOLOGY - 41
TISSUE CULTURE ASSOCIATION
TORREY BOTANICAL CLUB
UNITED STATES PHARMACOPEIAL CONVENTION INC.
WEED SCIENCE SOCIETY OF AMERICA - 41
WILSON ORNITHOLOGICAL SOCIETY - 11

CHEMISTRY

- American Association of Cereal Chemists
- American Association of Clinical Chemists
- American Chemical Society
- Association of Official Analytical Chemists
- Association of Vitamin Chemists

MATHEMATICS AND STATISTICS

- Society for General Systems Research
- The Biometric Society

MATERIALS SCIENCE*

- Forest Products Research Society

GEO SCIENCES

- Society of Vertebrate Paleontology

ENGINEERING

- Methods Time Measurement Association for Standards and Research
- American Society of Sanitary Engineering

ATMOSPHERIC AND SPACE SCIENCES

- Air Pollution Control Association

SOCIOLOGY AND SOCIAL WORK

- Population Association of America, Inc.
- National Association of Social Workers

LINGUISTICS

- National Society for the Study of Communication

PHYSICS

- Radiation Research Society

ANTHROPOLOGY

- Society for the Study of Evolution
- Society for Applied Anthropology
- American Association of Physical Anthropologists

AGRICULTURAL

- American Dairy Science Association
- American Fisheries Society
- American Institute of Fishery Research Biologists
- American Society of Agronomy
- American Society of Animal Science
- American Society for Horticultural Science
- American Society of Range Management
- Association of Official Seed Analysts
- Crop Science Society of America
- Institute of Food Technologists
- The Poultry Science Association
- Society of American Foresters - 1
- Society for Economic Botany - 2
- Soil Conservation Society of America
- Soil Science Society of America
- Trapping Society
- Wildlife Disease Association
- The Wildlife Society

OTHER AFFILIATED ORGANIZATIONS

- Society of American Bacteriologists - 40
- Congress of American Physicians and Surgeons - 43
- Association for Gnotobiotics - 44
- Laboratory Animal Breeders Association - 45
- Allied Trade Association - 46
- Academy of Natural Sciences of Philadelphia - 47
- Cooper Ornithological Society - 48
- U.S. National Committee for International Union - 49
- Council of Medical Education - 50
- Council of Academic American Medical Colleges - 51
- American Society for Information Science - 52
- International Radiation Protection Association - 53

- Center of box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

During the past decade, the most rapid growth has been experienced by the American Association for Laboratory Animal Science with a 450% increase in membership. In terms of actual new members, the American Society for Microbiology ranks highest in the field with 4,450 new members in the past three years.

No single society stands out in the biological sciences with respect to science information programs. Most of the individual societies produce various primary and secondary publications related to their specific interests, but the main bibliographic tool in the field, Biological Abstracts, is not produced by a scientific society.

11. Psychological Sciences

There are 14 societies in the United States principally concerned with the psychological sciences; 18 other societies are indirectly or secondarily concerned with the field. Figure 11 identifies all of the societies associated with the psychological sciences.*

From the standpoint of its subject centrality, its science information functions, and its number of members, the American Psychological Association (APA) readily stands out as the central and most dominant society in the psychological sciences. The APA has 25,800 members. All of the other societies in the field are quite small with total memberships under 2,000.

The oldest society in the field is the American Society for Psychical Research founded in 1885. Two new societies have been established in the past decade: The Psychonomic Society founded in 1959, and the International Society for the Study of Symbols which was founded in 1963.

Over the past decade, the Human Factors Society had the most rapid growth with a rise of 225%. Over the past three years, the American Psychological Association has actually increased its membership the most, adding 5,835 new members.

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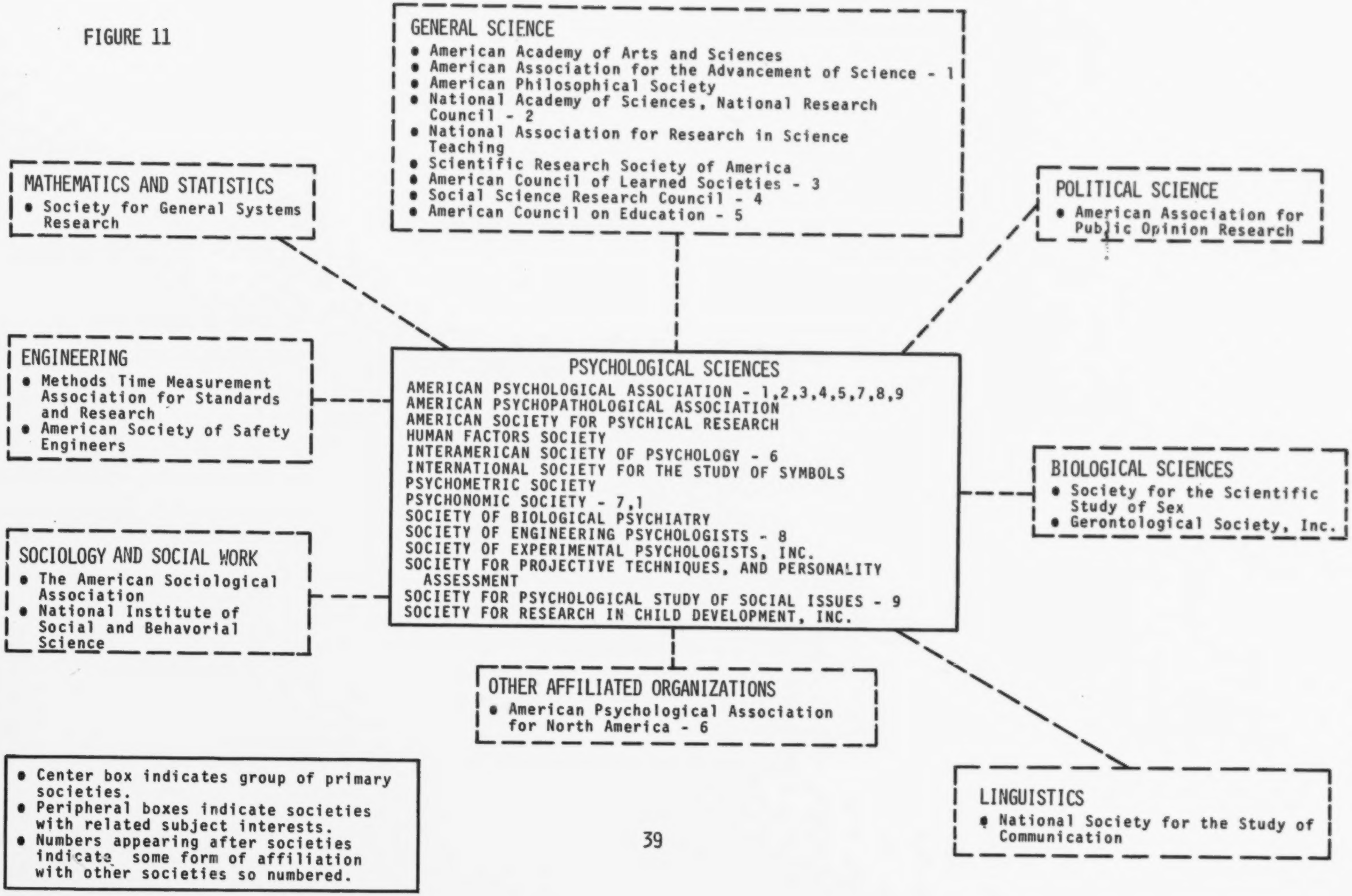
* The Society of Engineering Psychologists and the Society for Psychological Study of Social Issues are actually divisions of the American Psychological Association, but have separate identities and requirements for membership.

SOCIETIES RELATED TO PSYCHOLOGICAL SCIENCES

FIGURE 11



GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 1
- American Philosophical Society
- National Academy of Sciences, National Research Council - 2
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 3
- Social Science Research Council - 4
- American Council on Education - 5

MATHEMATICS AND STATISTICS

- Society for General Systems Research

POLITICAL SCIENCE

- American Association for Public Opinion Research

ENGINEERING

- Methods Time Measurement Association for Standards and Research
- American Society of Safety Engineers

PSYCHOLOGICAL SCIENCES

AMERICAN PSYCHOLOGICAL ASSOCIATION - 1,2,3,4,5,7,8,9
AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION
AMERICAN SOCIETY FOR PSYCHICAL RESEARCH
HUMAN FACTORS SOCIETY
INTERAMERICAN SOCIETY OF PSYCHOLOGY - 6
INTERNATIONAL SOCIETY FOR THE STUDY OF SYMBOLS
PSYCHOMETRIC SOCIETY
PSYCHONOMIC SOCIETY - 7,1
SOCIETY OF BIOLOGICAL PSYCHIATRY
SOCIETY OF ENGINEERING PSYCHOLOGISTS - 8
SOCIETY OF EXPERIMENTAL PSYCHOLOGISTS, INC.
SOCIETY FOR PROJECTIVE TECHNIQUES, AND PERSONALITY ASSESSMENT
SOCIETY FOR PSYCHOLOGICAL STUDY OF SOCIAL ISSUES - 9
SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT, INC.

BIOLOGICAL SCIENCES

- Society for the Scientific Study of Sex
- Gerontological Society, Inc.

SOCIOLOGY AND SOCIAL WORK

- The American Sociological Association
- National Institute of Social and Behavorial Science

OTHER AFFILIATED ORGANIZATIONS

- American Psychological Association for North America - 6

LINGUISTICS

- National Society for the Study of Communication

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

The American Psychological Association performs the major science information functions for the field through its primary publications and its major bibliographic publication (Psychological Abstracts).

12. Economics

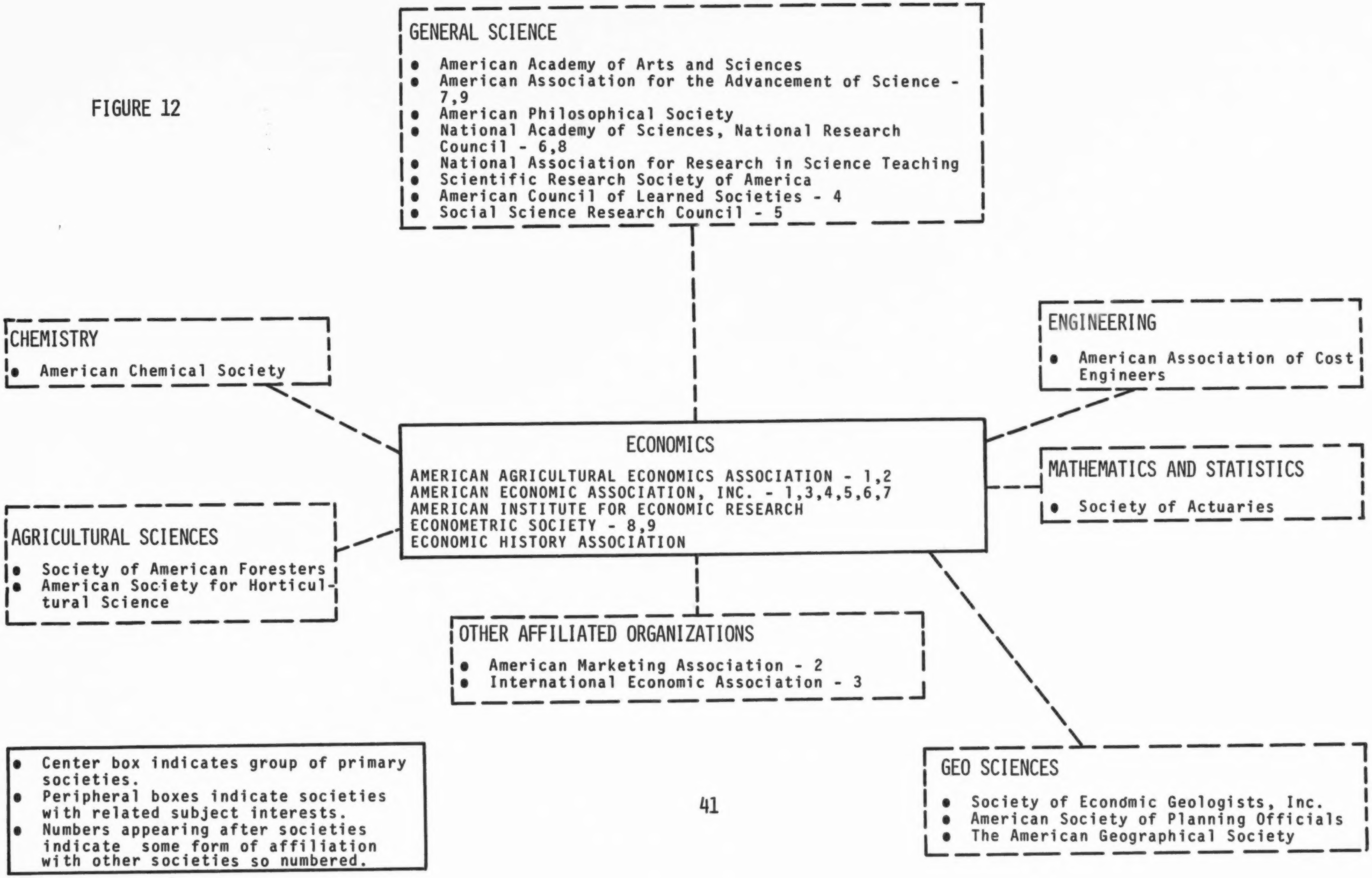
There are five scientific societies in the United States primarily concerned with economics and 16 other societies that are indirectly or secondarily related. The societies associated with economics are graphically depicted in Figure 12.

The American Economic Association, Inc. is the most central society in the field of economics by virtue of its affiliations with national advisory groups, its discipline coverage, and the number and diversity of its publications. It is the oldest society in the field (founded in 1885), has had the largest increase in membership (3,650) and the fastest rate of growth in the past decade (75.8%). The American Institute for Economic Research with approximately one-third as many members also appears to have broad discipline coverage and a strong primary publications program.

In terms of individual memberships, the single largest society in economics is the American Economic Association, Inc. with 16,675 members, followed by the American Institute for Economic Research with 5,000 members.

FIGURE 12

SOCIETIES RELATED TO ECONOMICS



GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 7,9
- American Philosophical Society
- National Academy of Sciences, National Research Council - 6,8
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 4
- Social Science Research Council - 5

CHEMISTRY

- American Chemical Society

ENGINEERING

- American Association of Cost Engineers

ECONOMICS

AMERICAN AGRICULTURAL ECONOMICS ASSOCIATION - 1,2
AMERICAN ECONOMIC ASSOCIATION, INC. - 1,3,4,5,6,7
AMERICAN INSTITUTE FOR ECONOMIC RESEARCH
ECONOMETRIC SOCIETY - 8,9
ECONOMIC HISTORY ASSOCIATION

MATHEMATICS AND STATISTICS

- Society of Actuaries

AGRICULTURAL SCIENCES

- Society of American Foresters
- American Society for Horticultural Science

OTHER AFFILIATED ORGANIZATIONS

- American Marketing Association - 2
- International Economic Association - 3

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

GEO SCIENCES

- Society of Econdmic Geologists, Inc.
- American Society of Planning Officials
- The American Geographical Society

13. Sociology and Social Work

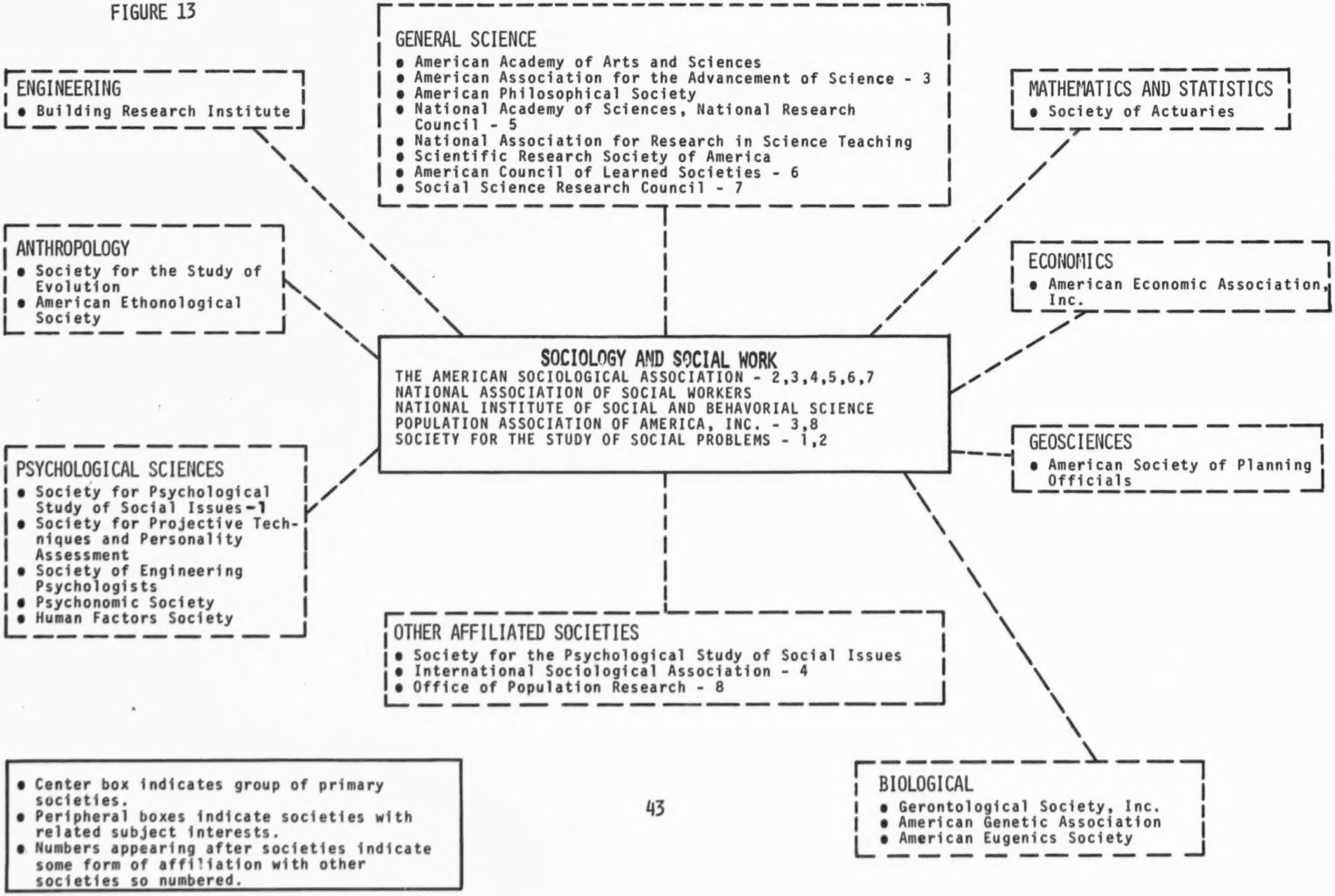
There are five scientific societies in the United States primarily concerned with sociology and social work. Twenty-two other societies are secondarily or indirectly related. All of the societies associated with sociology and social work are graphically depicted in Figure 13.

From the standpoint of discipline coverage and information activities, the American Sociological Association is the most central society within the field and also has the most affiliations. The American Sociological Association with 11,300 members is not particularly dominant with respect to size of membership. Within the grouping, the single largest society is the National Association of Social Workers with 42,000 members.

The oldest society is the American Sociological Association which was founded in 1905, as the American Sociological Society and became the American Sociological Association in 1959. According to the data collected, no new society has been formed in the past decade in the area of sociology and social work.

SOCIETIES RELATED TO SOCIOLOGY AND SOCIAL WORK

FIGURE 13



SOCIOLOGY AND SOCIAL WORK

THE AMERICAN SOCIOLOGICAL ASSOCIATION - 2,3,4,5,6,7
NATIONAL ASSOCIATION OF SOCIAL WORKERS
NATIONAL INSTITUTE OF SOCIAL AND BEHAVORIAL SCIENCE
POPULATION ASSOCIATION OF AMERICA, INC. - 3,8
SOCIETY FOR THE STUDY OF SOCIAL PROBLEMS - 1,2

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 3
- American Philosophical Society
- National Academy of Sciences, National Research Council - 5
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 6
- Social Science Research Council - 7

ENGINEERING

- Building Research Institute

ANTHROPOLOGY

- Society for the Study of Evolution
- American Ethonological Society

PSYCHOLOGICAL SCIENCES

- Society for Psychological Study of Social Issues-1
- Society for Projective Techniques and Personality Assessment
- Society of Engineering Psychologists
- Psychonomic Society
- Human Factors Society

MATHEMATICS AND STATISTICS

- Society of Actuaries

ECONOMICS

- American Economic Association, Inc.

GEOSCIENCES

- American Society of Planning Officials

OTHER AFFILIATED SOCIETIES

- Society for the Psychological Study of Social Issues
- International Sociological Association - 4
- Office of Population Research - 8

BIOLOGICAL

- Gerontological Society, Inc.
- American Genetic Association
- American Eugenics Society

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

The fastest growing society in the family is the Population Association of America which has increased membership by 200% in the last decade. In terms of actual number of new members, the National Association of Social Workers ranks highest with the addition of 7,000 new members in the past three years.

The American Sociological Association plays a prominent role in the publication and dissemination of scientific information.

14. Anthropology

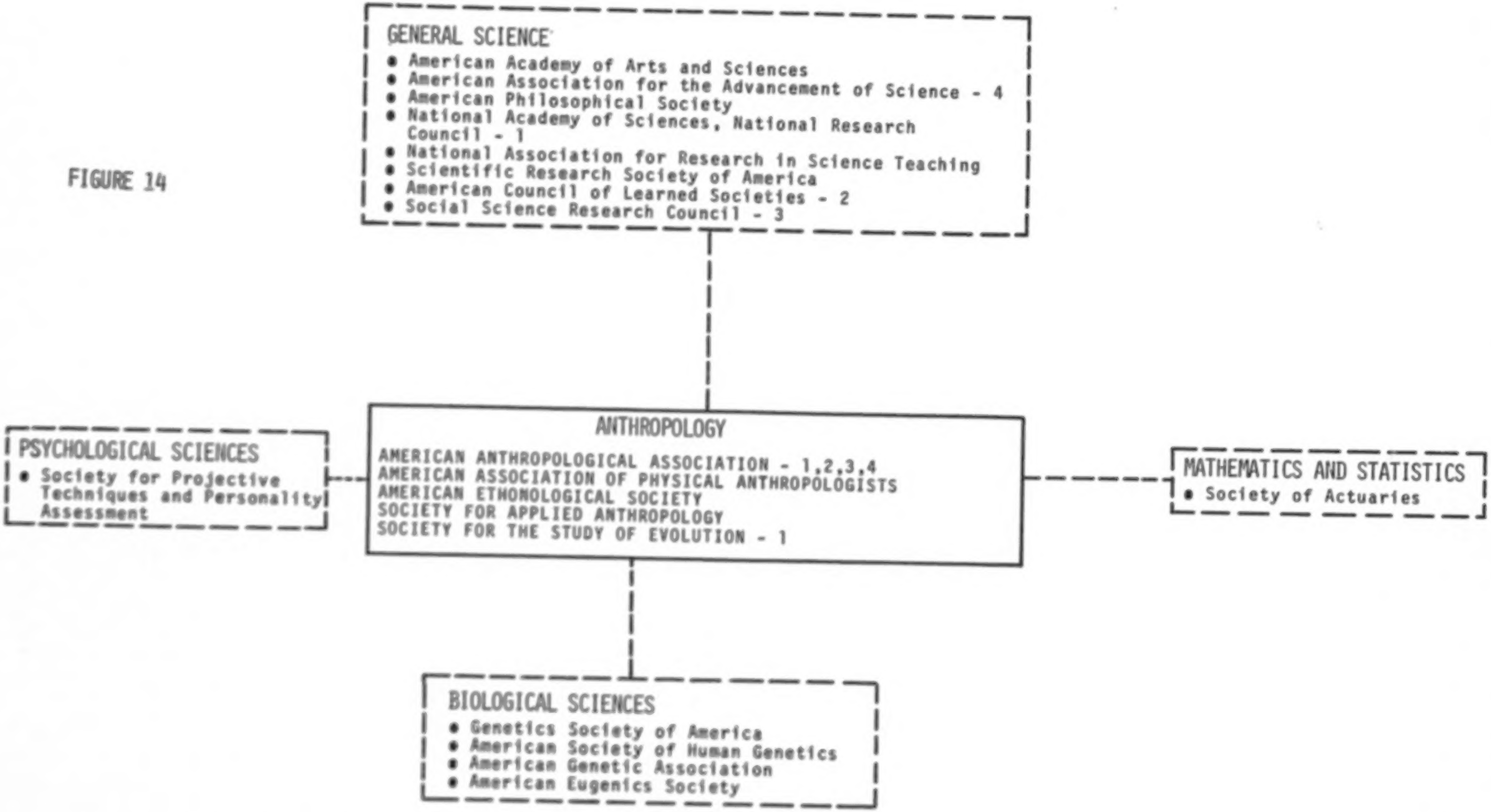
There are five scientific societies in the United States primarily concerned with anthropology. Six other societies are secondarily or indirectly related. All of the societies associated with anthropology are graphically depicted in Figure 14.

From the standpoint of discipline coverage, information activities, size of membership, and affiliations with other societies, the American Anthropological Association is the most central society within the field.

Within the field of anthropology, the single largest society is the American Anthropological Association with 6,240 members. The second largest society is the Society for Applied Anthropology with 3,102 members.

SOCIETIES RELATED TO ANTHROPOLOGY

FIGURE 14


GENERAL SCIENCE
• American Academy of Arts and Sciences
• American Association for the Advancement of Science - 4
• American Philosophical Society
• National Academy of Sciences, National Research Council - 1
• National Association for Research in Science Teaching
• Scientific Research Society of America
• American Council of Learned Societies - 2
• Social Science Research Council - 3
ANTHROPOLOGY
AMERICAN ANTHROPOLOGICAL ASSOCIATION - 1,2,3,4
AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS
AMERICAN ETHONOLOGICAL SOCIETY
SOCIETY FOR APPLIED ANTHROPOLOGY
SOCIETY FOR THE STUDY OF EVOLUTION - 1
PSYCHOLOGICAL SCIENCES
• Society for Projective Techniques and Personality Assessment
MATHEMATICS AND STATISTICS
• Society of Actuaries
BIOLOGICAL SCIENCES
• Genetics Society of America
• American Society of Human Genetics
• American Genetic Association
• American Eugenics Society

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

The oldest society is the American Ethnological Society which was founded in 1842. According to the data collected, no new society has been formed in the past decade in the field of anthropology.

The fastest growing society in the field at the present time is the Society for Applied Anthropology, which has increased membership over the past decade by 107%. In terms of actual numbers of new members, the American Aathropological Association ranks highest with the addition of 2,920 new members in the past three years.

All of the anthropology societies have roles in the dissemination of scientific information by publishing proceedings, but no additional information activities were found in the data collected.

15. Linguistics

There are three scientific societies in the United States primarily concerned with linguistics. Seven other societies are secondarily or indirectly related to linguistics. All of the societies associated with the field are graphically depicted in Figure 15.

From the standpoint of discipline coverage and information activities, the Linguistic Society of America is the most central society within the field; however, it is not particularly dominant with respect to size of membership, or current growth.

SOCIETIES RELATED TO LINGUISTICS

FIGURE 15

GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 3
- American Philosophical Society
- National Academy of Sciences, National Research Council - 2
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 1

LINGUISTICS

INTERNATIONAL SOCIETY FOR GENERAL SEMANTICS
LINGUISTIC SOCIETY OF AMERICA - 1,2,3
NATIONAL SOCIETY FOR THE STUDY OF COMMUNICATION

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered

Within the field, the International Society of General Semantics with a reported 6,000 members appears to be the largest and the fastest growing, but the data collected is inconclusive. The oldest society is the Linguistic Society of America which was founded in 1924.

16. Archaeology

There are two scientific societies in the United States primarily concerned with archaeology; there are seven other societies secondarily related to the field. The societies related to archaeology are graphically depicted in Figure 16.

In terms of individual memberships, the largest society in archaeology is the Archaeological Institute of America with 4,500 members. It is also the oldest (founded in 1879).

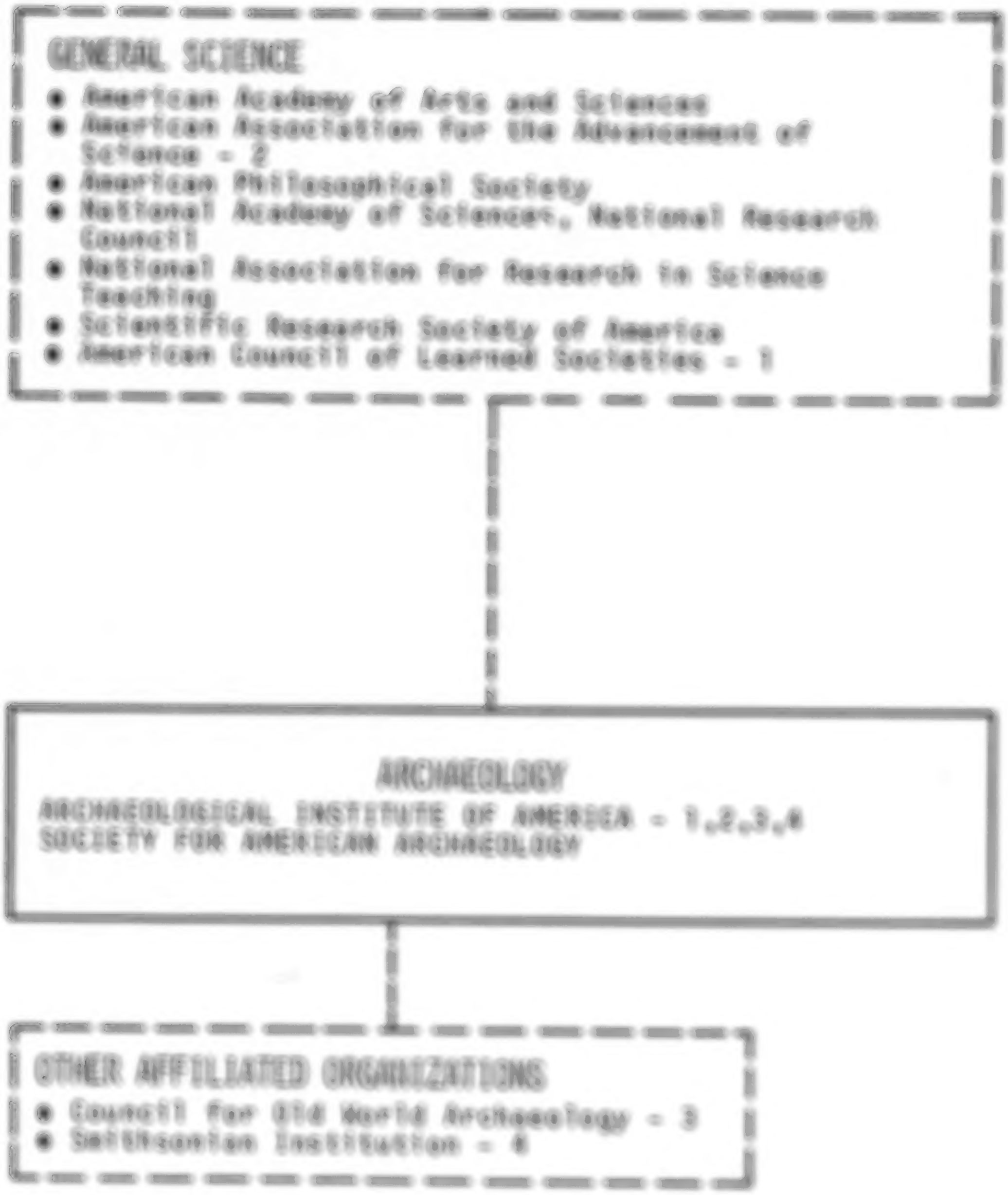
Over the past decade, the other society in the field, the Society for American Archaeology, has had a slightly larger percentage increase in membership, rising by 97% to 2,900 members.

17. Political Science

There are two scientific societies in the United States primarily concerned with political science and ten other societies that are secondarily or indirectly related. All of the societies associated with political science are graphically depicted in Figure 17.

SOCIETIES RELATED TO ARCHAEOLOGY

FIGURE 16



GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 2
- American Philosophical Society
- National Academy of Sciences, National Research Council
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 1

ARCHAEOLOGY

ARCHAEOLOGICAL INSTITUTE OF AMERICA - 1,2,3,4
SOCIETY FOR AMERICAN ARCHAEOLOGY

OTHER AFFILIATED ORGANIZATIONS

- Council for Old World Archaeology - 3
- Smithsonian Institution - 4

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

SOCIETIES RELATED TO POLITICAL SCIENCE

FIGURE 17

GENERAL SCIENCE
- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 5
- American Philosophical Society
- National Academy of Sciences, National Research Council - 3
- National Association for Research in Science Teaching
- Scientific Research Society of America
- American Council of Learned Societies - 2
- Social Science Research Council - 1
- American Council on Education - 4

POLITICAL SCIENCE
AMERICAN ASSOCIATION FOR PUBLIC OPINION RESEARCH
AMERICAN POLITICAL SCIENCE ASSOCIATION - 1,2,3,4,5

SOCIOLOGY AND SOCIAL WORK
- Society for the Study of Social Problems

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

2

From the standpoint of discipline coverage and information activities, the American Political Science Association is the most central society within the field. It also is the oldest society in political science (founded in 1903), has the largest membership (16,500), the most new members in the past three years, the fastest rate of growth over the past decade (139%), and the most affiliations with other societies.

18. Philosophy and History of Science

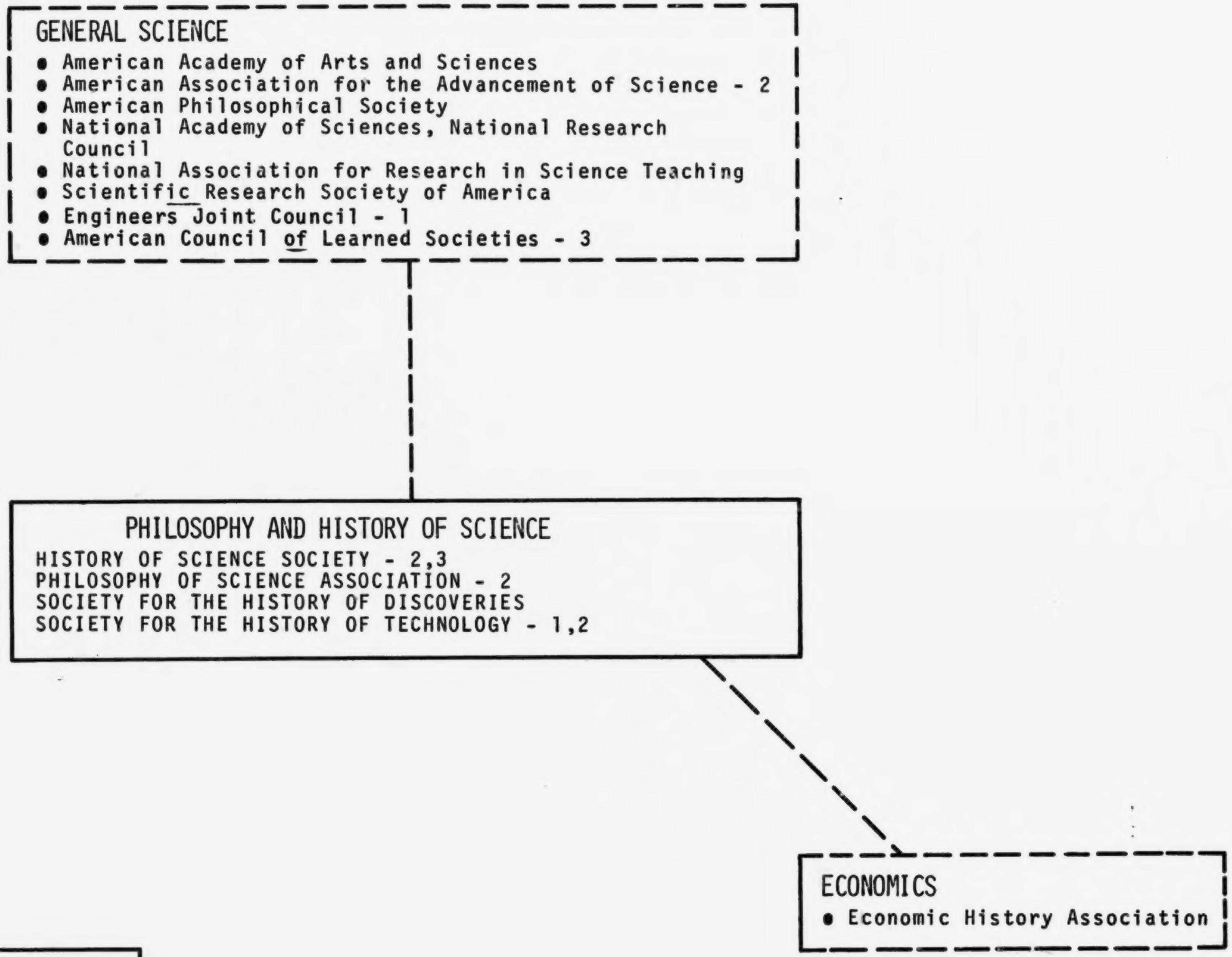
There are four scientific societies in the United States primarily concerned with the philosophy and history of science and nine other societies that are indirectly or secondarily related. The societies associated with philosophy and history of science are graphically depicted in Figure 18.

In terms of individual memberships, the single largest society is the Philosophy of Science Association with 2,000 members, followed by the Society for the History of Technology with 1,400 members, and the History of Science Society with 1,200 members.

The oldest society in the field is the History of Science Society which was founded in 1924. New societies established within the past decade are the Society for the History of Discoveries founded in 1960, and the Society for the History of Technology founded in 1958.

FIGURE 18

SOCIETIES RELATED TO PHILOSOPHY AND HISTORY OF SCIENCE



GENERAL SCIENCE

- American Academy of Arts and Sciences
- American Association for the Advancement of Science - 2
- American Philosophical Society
- National Academy of Sciences, National Research Council
- National Association for Research in Science Teaching
- Scientific Research Society of America
- Engineers Joint Council - 1
- American Council of Learned Societies - 3

PHILOSOPHY AND HISTORY OF SCIENCE

HISTORY OF SCIENCE SOCIETY - 2,3
PHILOSOPHY OF SCIENCE ASSOCIATION - 2
SOCIETY FOR THE HISTORY OF DISCOVERIES
SOCIETY FOR THE HISTORY OF TECHNOLOGY - 1,2

ECONOMICS

- Economic History Association

- Center box indicates group of primary societies.
- Peripheral boxes indicate societies with related subject interests.
- Numbers appearing after societies indicate some form of affiliation with other societies so numbered.

Over the past three years, the Society for the History of Technology has had the most rapid rate of increase in membership, rising by 115%. Over the past decade, the Philosophy of Science Association has had the largest percentage increase in membership, rising by 433%. In terms of actual numbers of new members, the Society for the History of Technology ranks first in the field with the addition of 844 over the past three years. Each of the societies publishes one periodical.

19. General Science

There are eight scientific societies in the United States that are very broad in scope of coverage and multidisciplinary in outlook. They are related, directly or indirectly, to all of the other societies included in this study. They are the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the American Council of Learned Societies, the American Philosophical Society, the National Academy of Sciences-National Research Council, the National Association for Research in Science Teaching, the National Science Teachers Association, and the Scientific Research Society of America.

D. MEMBERSHIP CHARACTERISTICS

The types of membership offered by the societies studied in this survey can be classified into the following categories:

- Individual
- Honorary
- Institutional
- Sustaining

Figure 19 gives a breakdown of the various types of membership commonly found in societies under each of the above categories. Counts of the number of societies in each discipline having the various membership types are shown in Table 2.

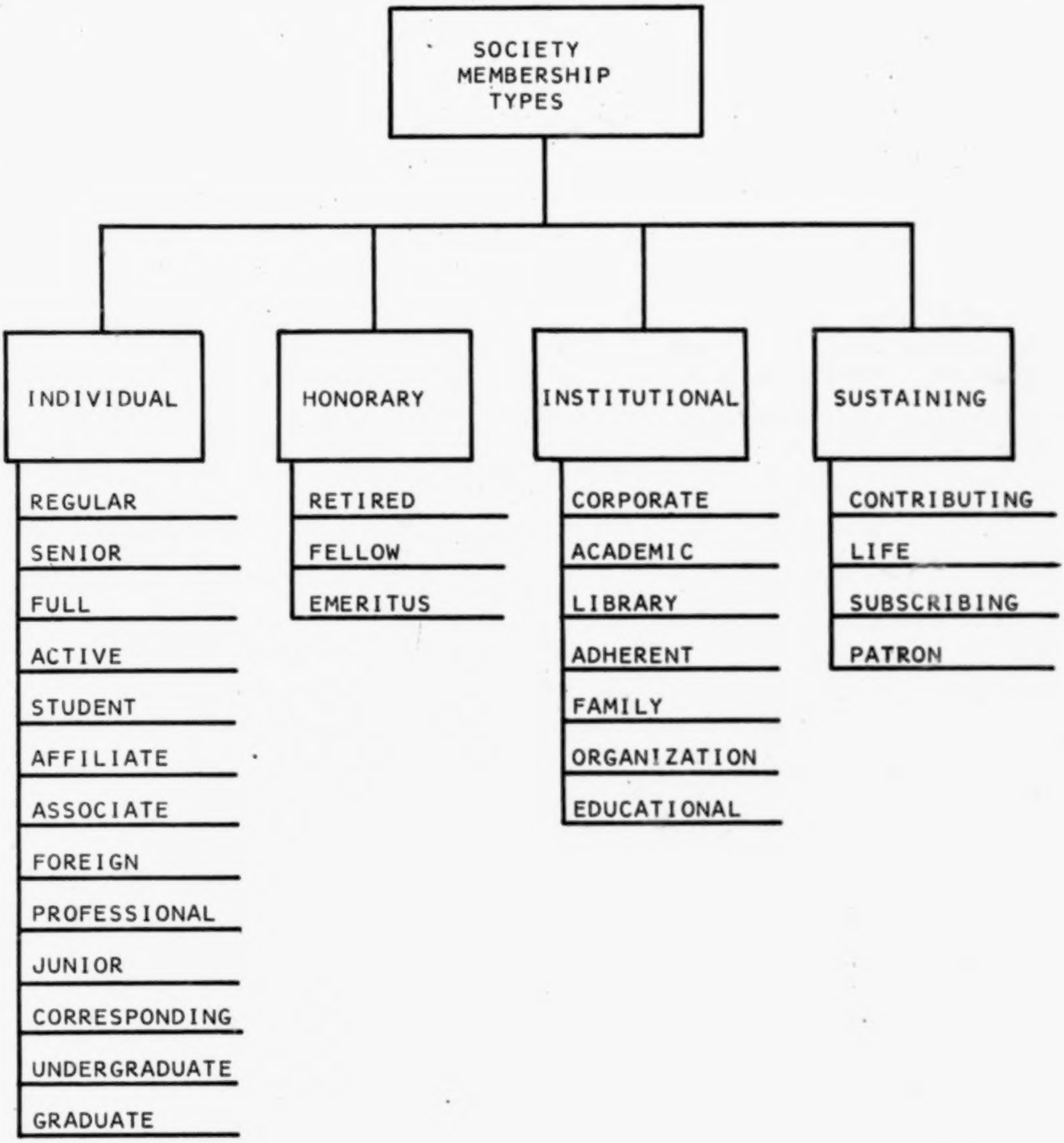

SOCIETY MEMBERSHIP TYPES
INDIVIDUAL
REGULAR
SENIOR
FULL
ACTIVE
STUDENT
AFFILIATE
ASSOCIATE
FOREIGN
PROFESSIONAL
JUNIOR
CORRESPONDING
UNDERGRADUATE
GRADUATE
HONORARY
RETIRED
FELLOW
EMERITUS
INSTITUTIONAL
CORPORATE
ACADEMIC
LIBRARY
ADHERENT
FAMILY
ORGANIZATION
EDUCATIONAL
SUSTAINING
CONTRIBUTING
LIFE
SUBSCRIBING
PATRON

FIGURE 19

TYPES OF MEMBERSHIPS

TABLE 2
TYPES OF
MEMBERSHIP
BY DISCIPLINE

	ENGINEERING	CHEMISTRY	PHYSICS	GEOSCIENCES	AQUATIC SCIENCES	ATMOSPHERIC AND SPACE SCIENCES	MATERIALS SCIENCES	MATHEMATICS AND STATISTICS	AGRICULTURAL SCIENCES	BIOLOGICAL SCIENCES	PSYCHOLOGICAL SCIENCES	ECONOMICS	SOCIOLOGY AND S.W.	ANTHROPOLOGY	LINGUISTICS	ARCHAEOLOGY	POLITICAL SCIENCE	PHILOSOPHY AND HISTORY OF SCIENCE	GENERAL SCIENCE
INDIVIDUAL	2	1	5	1				5	2	6									
REGULAR	33	7	13	13	3	4		7	7	33	9	3	1			1	1	4	5
SENIOR	5	1									1								
FULL				1		1		1		3	1		1						
ACTIVE	2	5	1	1					5	19		1	2						
STUDENT	25	5	9	6	3	5		9	6	17	5	2	4				2	2	1
AFFILIATE	11	1	1					1	3	11	1						1		
ASSOCIATE	28	10	6	4	2	2			5	18	2		1			1		1	2
FOREIGN			2	1				1	1	4	1		1					1	1
PROFESSIONAL		1				1			2										
JUNIOR	12	1	1	1		1		1		2	1	2							
CORRESPONDING			1						1	6		1				1			
UNDERGRADUATE									2										
GRADUATE									2										
HONORARY	15	4	4	4	1				5	19	3	1							
RETIRED										4									
FELLOW	8	4	3	3				1	2	2	1	2	1						
EMERITUS	1	5	1		1				2	8	1							1	3
INSTITUTIONAL	1		1	1		3		5	2	2		1				1			
CORPORATE	7	5	6	4	3	3		3		2									
FAMILY											1								
LIBRARY										1									
ADHERENT										1									
ORGANIZATION	1		1	1		1		1					1						1
EDUCATIONAL								1											
ACADEMIC								2											
SUSTAINING	11	1	12	3		3		4	7	18	1	2				1			1
CONTRIBUTING				3		1						1				1			
LIFE	4	2	1	4		1			6	14	1	1				1	1	1	2
SUBSCRIBING												1							
PATRON		1		2				1	1	6						1			

In terms of numbers of members, the engineering discipline is the largest with an aggregate of 708,970 society members, an average society membership of 14,468 and a median society membership of 4975. The median number of members for the materials group is 9829 and represents the largest median size for any of the discipline families.

Table 3 gives the total number of members, number of societies, the average number of members per society, and the median number of members for each discipline family.

E. DUES STRUCTURE

Table 4 presents data on the average dues of societies by discipline. The data on dues were obtained mostly from society brochures of the type mailed to prospective members during the July-October 1968 period. The overall average individual membership dues for all societies is $14.30 per year. The engineering discipline family has the highest average dues of $18.95 and also the highest median dues of $18.00. The highest dues occur in the disciplines of engineering, biology, and psychological sciences, each of which have societies with annual dues greater than $40.00. The anthropology discipline family has the lowest average dues of $8.33 and also the lowest median of $8.00.

TABLE 3
SOCIETY MEMBERSHIP

DISCIPLINE FAMILY	TOTAL MEMBER-SHIP	NUMBER OF SOCIETIES	AVERAGE MEMBER-SHIP	MEDIAN MEMBER-SHIP
1. ENGINEERING	708,970	49	14,468	4,975
2. CHEMISTRY	140,550	12	11,712	1,773.5
3. PHYSICS	71,235	17	4,190	2,300
4. GEOSCIENCES	67,754	20	3,387	2,025
5. AQUATIC SCIENCES	17,415	3	5,805	1,800
6. ATMOSPHERIC & SPACE SCIENCES	56,360	7	8,051	2,100
7. MATERIALS SCIENCES	141,150	13	10,857	9,829
8. MATHEMATICS & STATISTICS	163,210	15	10,880	3,780
9. AGRICULTURAL SCIENCES	70,507	17	4,147	3,000
10. BIOLOGICAL SCIENCES	163,822	65	2,520	1,250
11. PSYCHOLOGICAL SCIENCES	37,104	14	2,650	891
12. ECONOMICS	25,709	4	6,427	3,367
13. SOCIOLOGY AND SOCIAL WORK	56,850	5	11,370	1,550
14. ANTHROPOLOGY	11,922	5	2,384	1,500
15. LINGUISTICS	12,100	3	4,033	5,300
16. ARCHAEOLOGY	7,400	2	3,700	3,700
17. POLITICAL SCIENCE	16,700	2	8,350	8,350
18. PHILOSOPHY & HISTORY OF SCIENCE	4,780	4	1,195	1,300
19. GENERAL SCIENCE	149,615	7	21,373	2,000

TABLE 4

SOCIETY DUES

DISCIPLINE FAMILY	AVERAGE DUES	# SOCIETIES IN COMPILATION	MEDIAN DUES	MINIMUM DUES	MAXIMUM DUES
1. ENGINEERING	$18.95	39	$18.00	$ 5.00	$40.00
2. CHEMISTRY	17.28	7	16.00	15.00	20.00
3. PHYSICS	12.33	15	10.00	4.00	25.00
4. GEOSCIENCES	13.72	20	15.00	3.00	25.00
5. AQUATIC SCIENCES	13.00	3	14.00	10.00	15.00
6. ATMOSPHERIC AND SPACE SCIENCES	12.16	6	14.50	4.00	20.00
7. MATERIALS SCIENCES	16.80	10	20.00	5.00	30.00
8. MATHEMATICS AND STATISTICS	14.15	13	15.00	2.00	25.00
9. AGRICULTURAL SCIENCES	14.06	11	15.00	5.00	20.00
10. BIOLOGICAL SCIENCES	11.39	40	10.00	1.00	50.00
11. PSYCHOLOGICAL SCIENCES	15.78	7	15.00	2.00	45.00
12. ECONOMICS	10.25	4	10.00	6.00	15.00
13. SOCIOLOGY AND SOCIAL WORK	16.25	4	17.50	5.00	25.00
14. ANTHROPOLOGY	8.33	3	8.00	7.00	10.00
15. LINGUISTICS	9.33	3	10.00	8.00	10.00
16. ARCHAEOLOGY	12.50	2	12.50	10.00	15.00
17. POLITICAL SCIENCE	17.50	2	17.50	15.00	20.00
18. PHILOSOPHY AND HISTORY OF SCIENCE	9.12	4	9.25	6.00	12.00
19. GENERAL SCIENCE	-	-	-	-	-

F. SOURCES AND USES OF FUNDS

To determine the sources and levels of financial support and expenditures, society brochures and annual reports were examined. Some yearly issues of society journals and bulletins were also screened. On the whole, very little meaningful society financial information was available in the literature. (In many cases diverse income sources and expenditures were reported as a total and not itemized.)

All of the societies studied appeared to obtain some funding from dues. Only 47 indicated in their literature that they obtained a portion of their funding from corporate or industrial sponsors. All appear to use a portion of their income for publishing.

The percentage of societies (by discipline family) using one or more full-time paid employee to perform society administrative or editorial functions is shown in Table 5. It was found that many societies used a substantial amount of part-time and volunteer labor to perform administrative and other society functions. The amount, however, was not determinable.

G. SCIENTIFIC INFORMATION AND COMMUNICATION FUNCTIONS

Since the time of their earliest appearance, scientific societies have played a prominent role in the recording and communication of scientific knowledge. In fact, the need for means to perform these functions has been the primary reason for creating scientific societies. Today, most of the societies assign positions of prominence to their information responsibilities in their published charters and statements of purpose.

TABLE 5

PERCENTAGE OF SOCIETIES USING FULL-TIME PAID EMPLOYEES BY DISCIPLINE

DESCRIPTIVE FAMILY	ONE OR MORE	FIVE OR MORE FULL-TIME PAID EMPLOYEES
1. ENGINEERING	59%	55%
2. CHEMISTRY	69	38
3 PHYSICS	42	32
4. GEOSCIENCES	48	33
5. AQUATIC SCIENCES	75	25
6. ATMOSPHERIC & SPACE SCIENCES	71	57
7. MATERIALS SCIENCES	77	69
8. MATHEMATICS & STATISTICS	47	35
9. AGRICULTURAL SCIENCES	50	28
10. BIOLOGICAL SCIENCES	29	10
11. PSYCHOLOGICAL SCIENCES	36	7
12. ECONOMICS	60	60
13. SOCIOLOGY AND SOCIAL WORK	20	20
14. ANTHROPOLOGY	40	20
15. LINGUISTICS	67	0
16. ARCHAEOLOGY	50	50
17. POLITICAL SCIENCE	50	50
18. PHILOSOPHY & HISTORY OF SCIENCE	0	0
19. GENERAL SCIENCE	75	63

Despite the commonality of these functions among scientific societies, the methods employed in performing them seem to vary greatly.

In the section that follows, the various scientific information functions and activities of scientific societies that were identified during the course of this study are presented and discussed.

Publishing

Of interest were the number of societies publishing primary and secondary periodicals, scientific and technical special publications, news, data or standards, and educational materials. Information on primary and secondary type publications was available generally from most of the major sources consulted. Information on the contents of those publications was not readily available. Actual examination of specimen issues of the society publications would probably be necessary to obtain this kind of information from written sources. Table 6 presents the percentage of societies engaged in the publication of primary and/or secondary information by discipline family.

Meetings

All of the societies represented in the study held national meetings. Many also maintained a regular series of regional meetings or conferences and symposia.

TABLE 6
PERCENTAGE OF SOCIETIES PUBLISHING PRIMARY OR SECONDARY INFORMATION

DISCIPLINE FAMILY	PUBLISHING
1. ENGINEERING	63%
2. CHEMISTRY	62
3. PHYSICS	68
4. GEOSCIENCES	81
5. AQUATIC SCIENCES	50
6. ATMOSPHERIC AND SPACE SCIENCES	71
7. MATERIALS SCIENCES	62
8. MATHEMATICS & STATISTICS	41
9. AGRICULTURAL SCIENCES	56
10. BIOLOGICAL SCIENCES	56
11. PSYCHOLOGICAL SCIENCES	50
12. ECONOMICS	60
13. SOCIOLOGY AND SOCIAL WORK	40
14. ANTHROPOLOGY	60
15. LINGUISTICS	67
16. ARCHAEOLOGY	100
17. POLITICAL SCIENCE	100
18. PHILOSOPHY AND HISTORY OF SCIENCE	75
19. GENERAL SCIENCE	63

Special Libraries and Information Centers

Although it is believed that many societies maintain libraries of varying sizes and services, only limited information on these libraries was available from the literature (see Table 7).

H. MAINTENANCE OF PROFESSIONAL STANDARDS

One objective of the study was to identify the functions which scientific societies perform relative to the establishment and maintenance of professional standards in their discipline or area of interest. Among their means for doing this are the establishment of academic qualifications for membership in their society, licensing or certifying of qualified practitioners or professionals in the discipline, and the establishment of codes of ethics and professional standards. A great variety of membership qualification standards were observed for scientific societies. They ranged from a requirement for prospective members to have recognized preeminence in the field or discipline to the mere payment of dues. Figure 20 presents society membership requirements (academic) by discipline families.

I. SOCIETY IDENTIFICATION AND REGISTRATION OF SPECIAL MANPOWER RESOURCES

The National Science Foundation maintains the National Register of Scientific and Technical Personnel by contract with selected scientific societies. The societies engaged with NSF in this effort are listed below:

American Anthropological Association
American Chemical Society
American Economic Association
American Geological Institute
American Institute of Biological Sciences
American Institute of Physics
American Mathematical Society
American Meteorological Society
American Political Science Association
American Psychological Association
American Sociological Association
Engineers Joint Council
Federation of American Societies for Experimental Biology

The number of societies regularly publishing directories listing their membership is reported in Table 8.

TABLE 7

SOCIETIES MAINTAINING OR SPONSORING SPECIAL LIBRARIES AND INFORMATION CENTERS

DISCIPLINE FAMILY	NUMBER	NO DATA
1. ENGINEERING	7	49
2. CHEMISTRY	2	11
3. PHYSICS	1	18
4. GEOSCIENCES	3	18
5. AQUATIC SCIENCES	3	1
6. ATMOSPHERIC & SPACE SCIENCES	4	3
7. MATERIALS SCIENCES	8	5
8. MATHEMATICS & STATISTICS	1	16
9. AGRICULTURAL SCIENCES		18
10. BIOLOGICAL SCIENCES	5	63
11. PSYCHOLOGICAL SCIENCES	1	10
12. ECONOMICS		5
13. SOCIOLOGY AND SOCIAL WORK		5
14. ANTHROPOLOGY		5
15. LINGUISTICS		3
16. ARCHAEOLOGY		2
17. POLITICAL SCIENCE	1	1
18. PHILOSOPHY & HISTORY OF SCIENCE		4
19. GENERAL SCIENCE	2	6

FIGURE 20
ACADEMIC REQUIREMENTS FOR MEMBERSHIP

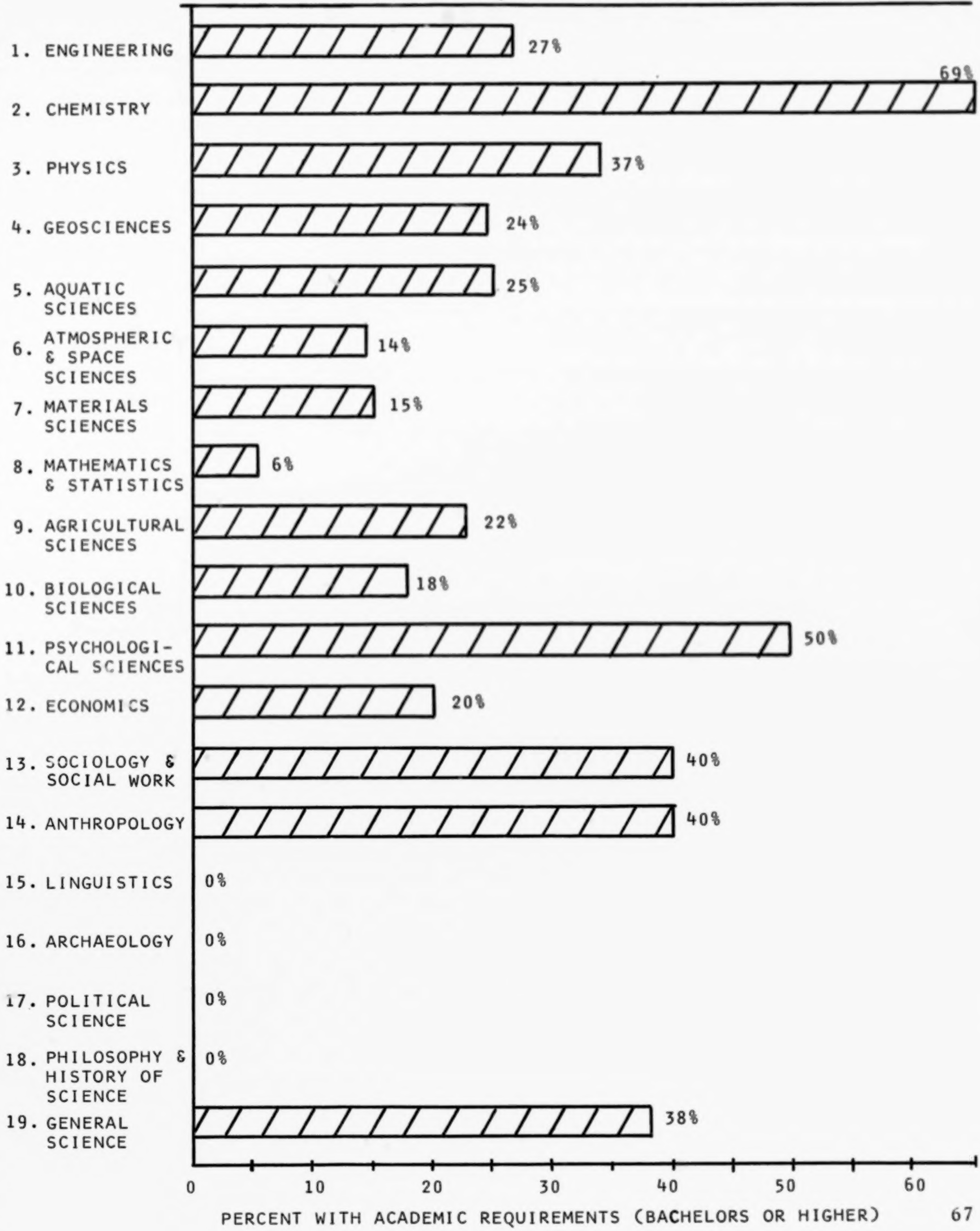


TABLE 8

SOCIETIES REGULARLY PUBLISHING MEMBERSHIP DIRECTORIES

DISCIPLINE FAMILY	PUBLISHING	NO DATA
1. ENGINEERING	9	47
2. CHEMISTRY		13
3. PHYSICS	1	18
4. GEOSCIENCES	7	14
5. AQUATIC SCIENCES	1	3
6. ATMOSPHERIC & SPACE SCIENCES	1	6
7. MATERIALS SCIENCES	2	11
8. MATHEMATICS & STATISTICS	4	13
9. AGRICULTURAL SCIENCES	2	16
10. BIOLOGICAL SCIENCES	9	59
11. PSYCHOLOGICAL SCIENCES	5	6
12. ECONOMICS	1	4
13. SOCIOLOGY AND SOCIAL WORK	3	2
14. ANTHROPOLOGY		5
15. LINGUISTICS	1	2
16. ARCHAEOLOGY		2
17. POLITICAL SCIENCE		2
18. PHILOSOPHY & HISTORY OF SCIENCE		4
19. GENERAL SCIENCE		8

J. INFLUENCE ON SCIENCE POLICY

Scientists as individuals influence science policy in a diversity of ways. Influential scientists are frequently leaders in scientific societies and the societies, through their meetings and publications, serve as a medium of communication through which policy is influenced. The same effect may be achieved in a more formalized and impersonal way through the establishment of committees within the societies. An even more formal means of influencing science policy is through society representation on national advisory groups, such as the National Academy of Sciences - National Research Council (NAS-NRC).

It was possible to ascertain through the literature that at least one out of six societies have special committees or other mechanisms for addressing science policy or research policy and slightly fewer have society policy committees. The number of societies having these types of committees by discipline family is shown in Table 9.

TABLE 9

POLICY COMMITTEES BY DISCIPLINE FAMILY

DISCIPLINE FAMILY	SCIENCE POLICY COMMITTEE	SOCIETY POLICY COMMITTEE
1. ENGINEERING	17	9
2. CHEMISTRY	3	3
3. PHYSICS	2	0
4. GEOSCIENCES	1	1
5. AQUATIC SCIENCES	0	0
6. ATMOSPHERIC AND SPACE SCIENCES	2	2
7. MATERIALS SCIENCES	4	3
8. MATHEMATICS AND STATISTICS	1	0
9. AGRICULTURAL SCIENCES	4	3
10. BIOLOGICAL SCIENCES	3	4
11. PSYCHOLOGICAL SCIENCES	13	13
12. ECONOMICS	0	0
13. SOCIOLOGY AND SOCIAL WORK	1	2
14. ANTHROPOLOGY	0	0
15. LINGUISTICS	0	0
16. ARCHAEOLOGY	0	0
17. POLITICAL SCIENCE	0	0
18. PHILOSOPHY AND HISTORY OF SCIENCE	1	0
19. GENERAL SCIENCE	1	1

Society representation on national advisory groups such as the NAS-NRC is an even more formal mechanism for influencing science policy. As early as 1863, the National Academy of Sciences was created to serve an official role in advising the Federal government on science policy. With the creation of the National Research Council as the research arm of NAS in 1916, selected societies have a direct role through the nomination of the members of the NRC.

Other national advisory groups with society affiliations are the American Council of Learned Societies, the Social Science Research Council, and the American Council on Education.

Approximately one third of the societies in this study are represented on NAS-NRC and a small number are affiliated with the other groups. The number of cooperating societies in each group by discipline family is shown in Table 10. The percentage of societies represented on NRC by discipline family is shown in Table 11.

TABLE 10
COOPERATING SOCIETIES OF NATIONAL ADVISORY GROUPS BY DISCIPLINE FAMILY

DISCIPLINE FAMILY	ACLS	SSRC	NRC	ACE
1. ENGINEERING	0	0	16	1
2. CHEMISTRY	0	0	4	0
3. PHYSICS	0	0	7	0
4. GEOSCIENCES	0	0	16	0
5. AQUATIC SCIENCES	0	0	0	0
6. ATMOSPHERIC AND SPACE SCIENCES	0	0	3	0
7. MATERIALS SCIENCES	0	0	4	0
8. MATHEMATICS AND STATISTICS	0	1	7	1
9. AGRICULTURAL SCIENCES	0	0	12	0
10. BIOLOGICAL SCIENCES	0	0	30	0
11. PSYCHOLOGICAL SCIENCES	1	1	2	1
12. ECONOMICS	1	1	2	0
13. SOCIOLOGY AND SOCIAL WORK	1	1	1	0
14. ANTHROPOLOGY	1	1	2	0
15. LINGUISTICS	1	0	1	0
16. ARCHAEOLOGY	1	0	0	0
17. POLITICAL SCIENCE	1	1	1	1
18. PHILOSOPHY AND HISTORY OF SCIENCE	1	0	0	0
19. GENERAL SCIENCE	2	0	1	0

TABLE 11

PERCENTAGE OF SOCIETIES REPRESENTED ON NAS/NRC BY DISCIPLINE FAMILY

DISCIPLINE FAMILY	% REPRESENTED ON NRC
1. ENGINEERING	29
2. CHEMISTRY	31
3. PHYSICS	37
4. GEOSCIENCES	76
5. AQUATIC SCIENCES	0
6. ATMOSPHERIC AND SPACE SCIENCES	43
7. MATERIALS SCIENCES	31
8. MATHEMATICS & STATISTICS	44
9. AGRICULTURAL SCIENCES	67
10. BIOLOGICAL SCIENCES	44
11. PSYCHOLOGICAL SCIENCES	14
12. ECONOMICS	40
13. SOCIOLOGY AND SOCIAL WORK	20
14. ANTHROPOLOGY	40
15. LINGUISTICS	33
16. ARCHAEOLOGY	0
17. POLITICAL SCIENCE	50
18. PHILOSOPHY & HISTORY OF SCIENCE	0
19. GENERAL SCIENCE	12

K. CHANGES SINCE 1958

In 1957, Sputnik launched a new era in scientific endeavors. Activity in scientific education was improved and increased on all levels. Federal Government research and development activities were increased. NASA was organized and nutured the public interest in science. What effect has all of this had on scientific societies? While no casual relationships can be established, some interesting correlations do exist.

The population of the country has increased by about 15 percent, while the overall average increase in membership in scientific societies has increased by 88 percent since 1958, thus reflecting to a degree the increased nationwide interest in science. Figure 21 gives the percentage membership changes for the past three and the past ten years.*

It would have been interesting to compare the percentage change in dues over the last decade but sufficient data was not available from the literature for meaningful analysis.

The classically oriented disciplines (e.g., Chemistry, Physics, Mathematics, and Biology) have a significant number of supporting societies but there is an emerging group of discipline families, conglomorate in terms of the classically oriented disciplines, which have societies covering

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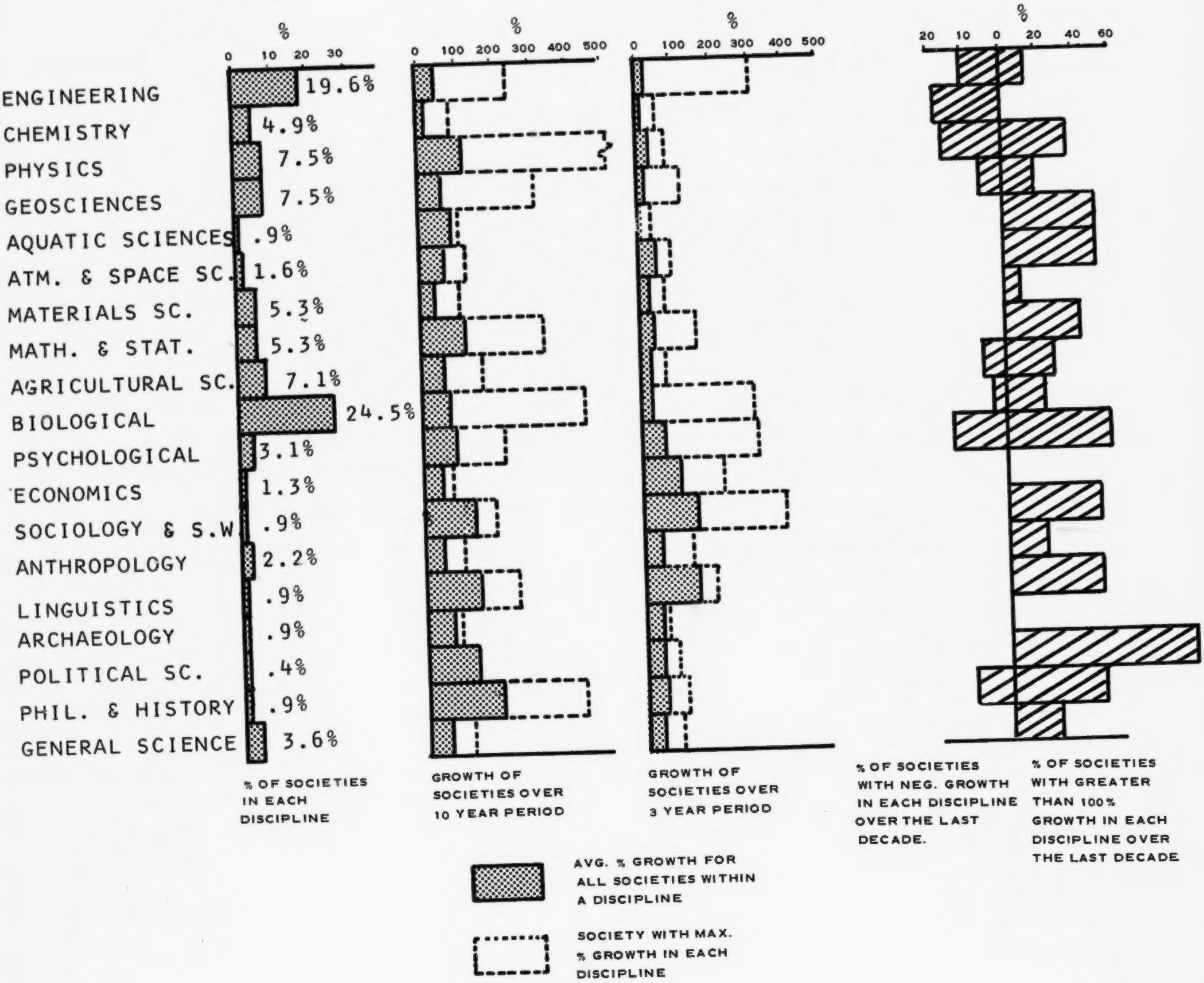
*These are approximate figures since some members belong to more than one society, but the percentage of members who do has probably remained somewhat constant, thus, at least partially cancelling out the duplicate member effect.

FIGURE 21

MEMBERSHIP CHANGE (3 YEARS, 10 YEARS)



various areas. These new disciplines, the aquatic sciences, space sciences, and management sciences, have grown in importance during the last decade. While there is no way to forecast confidently future trends, it appears that much emphasis will be given to the social sciences and the human behavioral sciences.

SECTION II

COMMENTS ON DATA COLLECTION METHODOLOGY

The data collected in the course of this study were obtained primarily from the various directories of scientific societies and brochures, prospectuses, and other materials routinely available from the societies. One of the objectives of the study was to determine the feasibility of using this type of data collection methodology. In the event that the purposes of the study could not be met by obtaining data from the literature, the approach used provided for the possibility of a second phase which would include collection of data directly from the societies by means of a mail questionnaire. Therefore, one requirement of this study was to identify gaps in the data base in order to determine if a Phase II (the questionnaire survey) were necessary to acquire essential data.

In its original proposal, WOLF suggested (since the study just completed is the third such study carried out by the National Science Foundation in the last nine years), that consideration be given to processing the data resulting from this study into a readily manipulable and maintainable data file.

The gaps in the data, a plan for the development of a readily manipulable and maintainable data file, and recommendations for Phase II (survey) will be discussed in the following paragraphs.

A. INADEQUACIES OF THE LITERATURE

Working from the data specifications approved by NSF, WOLF pursued the identification, acquisition, extraction, and recording of all pertinent data available in documented form. The main efforts were concentrated on the utilization of available reference works (principally the current and previous editions of the NAS-NRC and the Gale directories) and various brochures, and other information received from the individual societies themselves. Where applicable, the data from the two previous NSF supported surveys of scientific societies were also used. (See Appendix I - Sources of Information).

The following types of information on professional scientific societies were found to be not readily obtainable through the use of literature search techniques:

1. Sources of Funds (amounts and percentages)
2. Uses of Funds (amounts and percentages)
3. Quantitative Data on Use of Part Time or Voluntary Labor to Perform Staff Functions
4. Chief Occupation of Paid Personnel (editorial, administrative, clerical, or other)
5. Science Information Activities Other Than Publishing
6. Use of Referees in Publication Selection

7. Percentage of Submitted Articles Rejected

8. Publication Backlogs

9. Publication Dates of Special Publications

10. Levels of Attendance at Recent Society Meetings

11. Occupational Affiliation of Membership (government, business, industry, academic, or others)

12. Degree of Society Involvement in the Maintenance of Professional Standards

13. Levels of Activity in the Identification and Registration of Special Scientific Manpower Resources to Meet National Needs

14. Permanency of Society Headquarters' Address (may or may not change with the election of new officers)

15. Addresses of Major Society Officers and Committee Chairman (while currently in office)

16. Terms (years) of Major Society Officers

17. Future Plans

The types of information not available through the literature represent a significant part of the total information determined to be of interest to NSF.

The literature search methodology employed for data gathering in this study yielded mostly secondary data, that is to say data that are obtained from other than first-hand sources responding to a specific inquiry in a specific context. The use of secondary data as the basis for a study such as the one conducted and reported herein, gives rise to the following basic problems:

1. All data are subject to a variety of factual and interpretational errors, and cannot be readily verified.

2. The data available must be extracted out of one context and selected to provide specific answers in another context.

3. The data which are available are collected and published at varying intervals, thus precluding the possibility of establishing a consistent time base for the study results.

4. Items requiring judgment for determination, such as subject categorization, do not carry the authority or accuracy of a primary source.

5. Negative data are rarely available.

For the reasons cited above, it is believed that the secondary nature of the data collected for this study is a more limiting factor with respect to the study results than the sparseness of the available data.

B. FUGITIVE SOCIETIES

The work plan followed in this study was designed to identify, evaluate, and select the maximum number of societies which met the established criteria (See Appendix II) in the time available. This was done, resulting in the validation of 96 more societies than were included in the 1964 NSF survey report. It is estimated that an additional 30 societies which would also meet the established criteria could have been identified through extensive searching in less productive sources. Admittedly, most of these possible additions to the universe would be smaller in size, more recently founded, and somewhat less significant when compared to their discipline family leaders. Nevertheless, their inclusion would provide useful information and would have made the coverage of the study more complete.

C. EXCLUSION OF MEDICAL SOCIETIES

In accordance with the directions of NSF, societies which had as their main area of interest "clinical medicine" were excluded from this study. Many of these societies are closely related with some of the organizations included in the Biological Sciences (Figure 10) and have intertwined research and information activities. Their exclusion introduced a significant limitation on the ability of the authors to present the most meaningful portrayal of the existing society activities or information exchange patterns in the biomedical area.

D. COMPUTER BASED FILE

Any consideration for further work in collecting data on scientific societies should include careful consideration of using computers. For example, a computer based system would allow NSF to conduct a study of societies as follows:

- Store all data on each of the societies on magnetic tape or discs.
- Print out a data form for periodic update including all of the data for an individual society and in such a format as to be self explanatory.
- Mail the data form to the society along with a transmittal letter, instructions, and a list of any special questions for which data is not yet included in the file.
- The respondent enters only that data on the form where changes are necessary and returns the updated form to the National Science Foundation.
- Edit and keypunch the changes entered on the form.
- Update the computer files with the changed information and retain certain historical data in the file.
- Automatically generate address labels for the followup letters to nonrespondents by means of the computer.

- Automatically prepare pre-determined cross tabulations of data from the new data in the computer files.

- Automatically plot historical trends from the new data and the historical data retained in the file.

- Prepare many alternative groupings of societies, into discipline families for example. This could be done quickly and inexpensively by the computer by merely changing the grouping criteria.

- Prepare special data compilations quickly and inexpensively on a one-time basis.

- Prepare a brief summary (by the NSF staff) based on the analysis of the trends, tables, and groupings generated by the computer.

- Maintain names and addresses of current society officials by storing the expiration date of the officer's term and periodically printing out a questionnaire and mailing label to the outgoing officer to solicit the name of his successor.

The results produced by such a computer based system could be distributed as appropriate to the various potential users. The written summaries, tables, trend plots, and groupings would possibly be used by high level administrators in the Foundation. Complete printouts of data for each society could possibly be distributed to staff members dealing directly with the societies.

Some of the advantages of a computer based system such as the one given as an example above are:

- Eliminate study design effort each time data is collected.
- Encourage societies to respond by making it possible for them to merely correct those items of data which are no longer current.
- Encourage societies to respond by indicating that incorrect data will be used if they do not bring it up-to-date.
- Provide inexpensive data reduction for the production of aggregate statistics, tables, and trend data.
- Produce a complete, current report of all data on an individual society or on all societies at any time.
- Standardize the criteria for periodic data collection to provide more accurate trend analysis.

E. PHASE II (SURVEY)

Now that the extraction of data from the literature is complete, it appears that there are four options available with respect to the possibility of additional data collection.

Option 1 would call for the design of a questionnaire for mailing to each of the societies to collect selected data, not in the literature, which is of current importance to the foundation.

Option 2 would be a questionnaire study similar to Option 1 except that all data including some already obtained from the secondary sources, would be obtained directly from the most reliable source, the societies themselves. A new questionnaire would have to be developed since the Data Worksheet developed for extracting this data from the literature would not be adequate for use as a mail questionnaire.

Option 3 would be to develop a computer based system which could incorporate the data extracted from the literature and use this as the basis for a first file update operation in which data would be collected directly from the societies. Such a system could operate essentially as described in the preceding section of this report.

Option 4 is to utilize the data extracted from the literature and to do no further data collection in the near future.

F. RECOMMENDATIONS FOR FURTHER DATA COLLECTION

Three times in the past nine years, the National Science Foundation has collected data on professional scientific societies. It is reasonable to assume that complete and current data on scientific societies will be of even greater importance in the future. A computer based system would provide NSF with the means to inexpensively collect and process complete, current data on scientific societies on a periodic basis over a number of years. It would also provide the means to collect the data in the near future to fill those gaps created by extracting the data from the literature.

It is therefore recommended that the National Science Foundation develop a computer based system for collecting and processing data on scientific societies, that the data extracted from the literature be incorporated as the initial data base in the system, and that immediately upon completion of the development of the system, a complete survey of all scientific societies be accomplished by means of the system.

SECTION III
CONCLUSIONS

From the findings and experience derived from this study, the following general conclusions have been drawn:

- In most of the major scientific disciplines or fields, one society occupies a dominant position with respect to the development, coordination, and direction of science information activities in that field. In the less well established or emerging fields it is possible to predict and estimate the probable or most likely society to assume such a role by analyzing the societies comprising the discipline family.

- A comprehensive study of scientific societies in the United States should include societies primarily identified with clinical medicine, since they represent a significant portion of the biological research field.

- Future studies of the U. S. scientific societies would be greatly facilitated by the continued maintenance of a data base of information previously collected and from which new data gathering could be readily performed.

Though the nature of the data available in the literature pertinent to the activities and functions of U. S. societies has served to limit severely the analysis and articulation of many topics of interest and to limit the creditability of many of the findings, these limitations in the results should not obfuscate the significant findings and results of the study. First, the study conclusively proved that the literature and other existing documentation do not provide an adequate basis for analyzing and studying scientific societies; a fact which was unknown prior to the study and one which NSF was interested in determining. Additionally, the study effort has accomplished the following:

- It has served to identify the universe of the U. S. scientific societies more completely than it has ever been defined before. While it is certain that not every society satisfying the criteria set forth by NSF has been identified, it is likely that the number of unindentified societies is small, probably less than 15% of the total.

- The study has produced the most comprehensive and detailed description of the significant topics concerning the characteristics of U. S. societies as a whole, and the specific characteristics of individual societies which would be of interest to the National Science Foundation.

- The study developed means and techniques for categorizing and arraying societies relative to scientific disciplines which provide new insight into the informal organization and science information systems operating within the scientific community.

- The study has developed concepts, plans, and recommendations concerning the further collection and maintenance of scientific society data through which far greater utility and efficiency can be realized.

These achievements are of lasting significance, while the primary limitations of the study, e.g., the lack of data and the secondary nature of the data, can be remedied by a relatively short-termed, low level of effort.

APPENDIX I
SOURCES OF INFORMATION

1. NAS-NRC - Scientific and Technical Societies of the United States (and Canada)
    - a. Eighth Edition (1968)
    - b. Seventh Edition (1961)
    - c. Sixth Edition (1955)
    - d. Fifth Edition (1948)
    - e. Fourth Edition (1942)
    - f. Third Edition (1937)
    - g. Second Edition (1930)
    - h. First Edition (1927)
2. NAS-NRC Library Files
3. Cooperating Societies, NAS-NRC - Revised Nov. 1967
4. Gale Research Company - Encyclopedia of Associations
    - a. Fifth Edition
        - (1) Vol. I (1968)
        - (2) Vol. II (1968)

        - (3) Vol. III - New Associations
            - (a) Number 1 (October 1967)
            - (b) Number 2 (June 1968)
            - (c) Number 3 (October 1968)
    - b. Fourth Edition, Vol. I (1964)
    - c. Third Edition, Vol. I (1961)
    - d. Second Edition, Vol. I (1959)
    - e. First Edition, Vol. I (1956)

5. Gale Research Company Files

6. The World Almanac - 1968 Centennial Edition

7. Scientific Societies in the United States by Ralph S. Bates.
    - a. Third Edition (1965)
    - b. Second Edition (1958)
    - c. First Edition (1945)

8. American Learned Societies by Joseph C. Kiger (1963)

9. Handbook of Learned Societies and Institutions: America. Published by the Carnegie Institution of Washington - June 1908. Republished by the Gale Research Company 1966.

10. Individual Society Membership or Publicity Brochures and Prospectuses

11. Individual Society Journals and Other Publications

12. NSF Scientific Society Surveys

    a. 1964 (Nov. - Dec. 1963)

    b. 1960 (Summer 1959)

13. NSF (OSIS) Files

14. Dr. Peter Fenner, Council on Education in the Geological Sciences, American Gelogical Institute

15. Some Characteristics of the Review Literature in Eight Fields of Science - A report to the OSIS-NSF by C. Fix, D. Campbell, and W. Creager. Herner and Company, 1964.

16. Developing a Coordinated Information Program for Geological Scientists in the United States, F.D. Smith, W. A. Creager, and J. S. Sayer - AGI, December 1967.

17. Scientific Meetings; Special Libraries Association, Vol. 12, No. 1-3 (1968)

18. American Science Manpower: 1966; National Science Foundation, NSF 68-7.

APPENDIX II
CRITERIA FOR VALIDATION

CRITERIA FOR VALIDATION

A. Eligible Sciences:

- Physics
- Chemistry
- Biology (to include medical* and agricultural sciences)
- Earth sciences (geochemistry, geology, geophysics, meteorology)
- Oceanography
- Astronomy
- Engineering (research)
- Mathematics
- Social sciences (archaeology, anthropology, psychology, linguistics, geography, history of science and technology, economic sciences, political science, and sociology)
- Multidiscipline

B. Society should be national in scope and membership, not regional, state-wide or with limited membership.

C. Society members should be composed primarily of scientists and/or engineers engaged in scientific or engineering work at a professional level.

D. No Greek letter or honorary societies or state academies should be included.

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* Clinical Medicine excluded.

APPENDIX III

PROFESSIONAL SCIENTIFIC SOCIETIES by DISCIPLINE FAMILIES

PROFESSIONAL SCIENTIFIC SOCIETIES
by
DISCIPLINE FAMILIES

1. Engineering

American Association of Cost Engineers
American Automatic Control Council
American Institute of Chemical Engineers
American Institute of Consulting Engineers
American Institute of Industrial Engineers, Inc.
American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc.
American Society for Engineering Education
American Society for Quality Control, Inc.
American Society for Testing and Materials
American Society of Agricultural Engineers
American Society of Civil Engineers
American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.
American Society of Lubrication Engineers
The American Society of Mechanical Engineers
American Society of Naval Engineers, Inc.
American Society of Safety Engineers
American Society of Sanitary Engineering
American Society of Tool and Manufacturing Engineers
Association of Iron and Steel Engineers
Audio Engineering Society, Inc.
Building Research Institute
Coordinating Research Council, Inc.
Engineering Foundation
Engineers Joint Council
Fluid Power Society
Illuminating Engineering Society
Institute of Electrical and Electronics Engineers, Inc.
Institute of Environmental Sciences
Institute of Navigation
Institute of Traffic Engineers
Instrument Society of America
International Material Management Society
Methods Time Measurement Association for Standards and Research
National Association of Corrosion Engineers
National Association of Power Engineers, Inc.
National Institute of Ceramic Engineers
National Institute of Packaging, Handling and Logistic Engineers

National Society of Professional Engineers
Radio Technical Commission for Aeronautics
Society for Nondestructive Testing, Inc.
Society of Aeronautical Weight Engineers
Society of Automotive Engineers, Inc.
Society of Die Casting Engineers, Inc.
Society of Fire Protection Engineers
Society of Logistics Engineers
Society of Mining Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers
Society of Motion Picture and Television Engineers
Society of Naval Architects and Marine Engineers
Society of Packaging and Handling Engineers
Society of Petroleum Engineers of the American Institute of Mining, Metallurgical and Petroleum Engineers
Society of Photographic Scientists and Engineers
Society of Photo-Optical Instrumentation Engineers
Society of Plastics Engineers
Society of Women Engineers
Standards Engineers Society
United Engineering Trustees

2. Chemistry

American Association of Cereal Chemists
American Association of Clinical Chemists
American Association of Textile Chemists and Colorists
American Chemical Society
American Institute of Chemists
American Leather Chemists Association
American Microchemical Society
Americal Oil Chemists Society
American Society of Brewing Chemists, Inc.
Association of Official Analytical Chemists
Association of Vitamin Chemists
Electrochemical Society, Inc.
Society of Cosmetic Chemists

3. Physics

Acoustical Society of America
American Association of Physics Teachers
American Crystallographic Association
American Institute of Physics
American Nuclear Society, Inc.
American Physical Society
American Roentgen Ray Society
American Society of Photogrammetry
American Vacuum Society, Inc.
Coblentz Society, Inc.
Electron Microscopy Society of America
Fine Particles Society
Inter-Society Color Council, Inc.
Optical Society of America, Inc.
Radiation Research Society
Society for Applied Spectroscopy
Society for Experimental Stress Analysis
Society of Rheology
Combustion Institute

4. Geosciences

The American Association of Petroleum Geologists
The American Geographical Society
American Geological Institute
American Geophysical Union
American Institute of Professional Geologists
American Society of Planning Officials
The Association of American Geographers
Association of American State Geologists
Clay Minerals Society
Geochemical Society
The Geological Society of America
Geoscience Information Society
Mineralogical Society of America
National Association of Geology Teachers
Paleontological Research Institution
Paleontological Society
Seismological Society of America
Society of Economic Geologists, Inc.
Society of Economic Paleontologists and Mineralogists
Society of Exploration Geophysicists
Society of Vertebrate Paleontology

5. Aquatic Sciences

American Society of Limnology and Oceanography
American Water Resources Association
Marine Technology Society
Water Pollution Control Federation

6. Atmospheric and Space Sciences*

Air Pollution Control Association
American Association of Variable Star Observers
American Astronomical Society
American Institute of Aeronautics and Astronautics
American Meteorological Society
Meteoritical Society
Solar Energy Society

7. Materials Sciences

American Ceramic Society, Inc.
American Concrete Institute
American Electroplaters Society, Inc.
American Foundrymens Society
American Iron and Steel Institute
American Society for Metals
American Welding Society
Federation of Societies for Paint Tech.
Fiber Society, Inc.
Forest Products Research Society
The Metallurgical Society of A.I.M.E.
Society of Wood Science and Technology
Technical Association of The Pulp and Paper Industry

8. Mathematics and Statistics

American Federation of Info. Processing Societies
American Mathematical Society
American Society for Cybernetics
American Statistical Association
Association for Computing Machinery
Association of Educational Data Systems
The Biometric Society
Industrial Mathematics Society
The Institute of Management Sciences
The Institute of Mathematical Statistics

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*The American Astronautical Society was not included because the information required for validation was received too late.

Mathematical Association of America
Metric Association
National Council of Teachers of Mathematics
Operations Research Society of America
Society of Actuaries
Society for General Systems Research
Society for Industrial and Applied Mathematics

9. Agricultural Sciences

American Dairy Science Association
American Fisheries Society
American Institute of Fishery Research Biologists
American Society of Agronomy
American Society of Animal Science
American Society for Horticulture Science
American Society of Range Management
Association of Official Seed Analysts
Crop Science Society of America
Institute of Food Technologists
The Poultry Science Association
Society of American Foresters
Society for Economic Botany
Soil Conservation Society of America
Soil Science Society of America
Tree-Ring Society
Wildlife Disease Association
The Wildlife Society

10. Biological Sciences

American Academy of Microbiology, Inc.
American Association of Anatomists
American Association for Avian Pathologists
American Association for Laboratory Animal Science
American Association of Bioanalysts
American Association of Immunologists
American Bryological Society
The American Dietetic Association
American Entomological Society
American Eugenics Society
American Fern Society, Inc.
American Genetic Association
American Industrial Hygiene Association
American Institute of Biological Sciences
American Institute of Nutrition
American Malacological Union

America Microscopical Society
American Ornithologists' Union
American Physiological Society
American Phytopathological Society
American Society for Cell Biology
American Society for Microbiology
American Society of Biological Chemists, Inc.
American Society of Human Genetics
American Society of Ichthyologists and Herpetrologists
American Society of Mammalogists
American Society of Naturalists
American Society of Parasitologists
American Society of Pharmacognosy
American Society of Pharmacology and Experimental Therapeutics, Inc.
American Society of Plant Physiologists
American Society of Plant Taxonamists
American Society of Zoologists
American Veterinary Medical Association
Animal Nutrition Research Council
Association for Tropical Biology
Biophysical Society
Botanical Society of America, Inc.
Conference of Research Workers in Animal Diseases
Ecological Society of America
Entomological Society of America
Federation of American Societies for Experimental Biology
Genetics Society of America
Gerontological Society, Inc.
Health Physics Society
Herb Society of America
Herpetologists League
International Organization of Plant Biosystematists
Lepidopterists Society
Mycological Society of America
National Association of Biology Teachers, Inc.
National Association of Sanitarians
National Shellfisheries Association
National Society for Medical Research
Phycological Society of America
Society for Developmental Biology
Society for Industrial Microbiology
Society for the Scientific Study of Sex
Society for Experimental Biology and Medicine
Society of General Physiologists
Society of Nematologists

Society of Protozoologists
Society of Systematic Zoology
Tissue Culture Association
Torrey Botanical Club
United States Pharmacopoeial Convention Inc.
Weed Science Society of America
Wilson Ornithological Society

11. Psychological Sciences

American Psychological Association
American Psychopathological Association
American Society for Psychical Research
Human Factors Society
InterAmerican Society of Psychology
International Society for the Study of Symbols
Psychometric Society
Psychonomic Society
Society of Biological Psychiatry
Society of Engineering Psychologists
Society of Experimental Psychologists, Inc.
Society for Projective Techniques, and Personality Assessment
Society for Psychological Study of Social Issues
Society for Research in Child Development, Inc.

12. Economics

American Agricultural Economics Association
American Economic Association, Inc.
American Institute for Economic Research
Econometric Society
Economic History Association

13. Sociology and Social Work

The American Sociological Association
National Association of Social Workers
National Institute of Social and Behavorial Science
Population Association of America, Inc.
Society for the Study of Social Problems

14. Anthropology

American Anthropological Association
American Association of Physical Anthropologists
American Ethonological Society
Society for Applied Anthropology
Society for the Study of Evolution

15. Linguistics

International Society for General Semantics
Linguistic Society of America
National Society for the Study of Communication

16. Archeology

Archaeological Institute of America
Society for American Archaeology

17. Political Science

American Association for Public Opinion Research
American Political Science Association

18. Philosophy and History of Science

History of Science Society
Philosophy of Science Association
Society for the History of Discoveries
Society for the History of Technology

19. General Science

American Academy of Arts and Sciences
American Association for the Advancement of Science
American Council of Learned Societies

American Philosophical Society
National Academy of Sciences National
  Research Council
National Association for Research in
  Science Teaching
National Science Teachers Association
Scientific Research Society of America

APPENDIX IV

SAMPLE SCIENTIFIC SOCIETY DATA SHEET

(1) SOCIETY NAME

DISCIPLINE FAMILY

PRIMARY________ SECONDARY________

IDENTIFICATION NUMBER

SCIENTIFIC SOCIETY DATA SHEET

(3) VALIDATION S___ A___

National in Scope, Not With Limited Membership	YES	NO
Not Greek Letter, Honorary or State Academy	YES	NO
Subject Relevance	YES	NO
Most Members are Scientists and/or Engineers Working at Professional Level	YES	NO

CORRESPONDENCE RECORD	MO	DA	YR
Initiated			
Response Received			

(4) ADDRESS S___ A___

PERMANENT HEADQUARTERS YES NO UNK	NUMBER AND STREET		
CITY	STATE	ZIP	TELEPHONE

(6) DESCRIPTION OF MAJOR ELECTED OFFICERS S___ A___

TITLE PRESIDENT	NAME		
Inaugural Date	Term (Yr)	ADDRESS (Number & Street) CITY	STATE
Title		Title	
Inaugural Date	Term (Yr)	Inaugural Date	Term (Yr)
Title		Title	
Inaugural Date	Term (Yr)	Inaugural Date	Term (Yr)

(5) PURPOSE S___ A___

(7) HISTORY S___ A___

FOUNDED Significant Changes Since 1958 YES NO

NOTES AND FORMER NAMES ________

(9) PUBLICATION PRACTICES S___ A___

Use Referee(s) YES NO UNK

Percentage of Submitted Articles Rejected

(8) MEETINGS S___ A___

TYPE	REGULAR		DATE	FREQUENCY	LAST MEETING ATTENDANCE	CO-SPONSOR	LOCATION CITY & STATE
National	YES	NO					
Regional	YES	NO					
Conference	YES	NO					
Symposia	YES	NO					
Other (Specify)	YES	NO					
	YES	NO					

(10) SOURCE OF FUNDS S___ A___

(10) SOURCE OF FUNDS			AMOUNT	PERCENT
Dues	YES	NO		
Government Support	YES	NO		
Corporate Sponsors or Members	YES	NO		
Sale of Publications	YES	NO		
Other (Specify)	YES	NO		
	YES	NO		

(11) USE OF FUNDS			AMOUNT	PERCENT
Sci. & Tech. Info.				

(8) MEETINGS S____ A_____

TYPE	REGULAR		DATE	FREQUENCY	LAST MEETING ATTENDANCE	CO-SPONSOR	LOCATION CITY & STATE
National	YES	NO					
Regional	YES	NO					
Conference	YES	NO					
Symposia	YES	NO					
Other (Specify)	YES	NO					
	YES	NO					
	YES	NO					
	YES	NO					

(13) PUBLICATIONS S____ A_____

a. Original Research Papers (Periodically)	YES	NO
b. Abstracting Service (Periodically)	YES	NO
c. Bibliographic Service (Periodically)	YES	NO
d. Society News	YES	NO
e. Review Articles	YES	NO
f. Educational Materials	YES	NO
g. Proceedings of Meetings	YES	NO
h. Translations	YES	NO
i. Other (Specify)	YES	NO

NAMES OF PERIODIC PUBLICATIONS	CIRCULATION	ISSUES PER YEAR	INCLUDED IN DUES		SUBSCRIPTION PRICE
1.			YES	NO	
2.			YES	NO	
3.			YES	NO	
4.			YES	NO	

NAMES OF SPECIAL PUBLICATIONS (Current or Pending)	PUBLICATION DATE	PRICE
1.		
2.		
3.		
4.		

PUBLICATION BACKLOG YES NO INCREASING DECREASING REMAINING THE SAME

(10) SOURCE OF FUNDS S____ A_____

			AMOUNT	PERCENT
Dues	YES	NO		
Government Support	YES	NO		
Corporate Sponsors or Members	YES	NO		
Sale of Publications	YES	NO		
Other (Specify)	YES	NO		
	YES	NO		

(11) USE OF FUNDS

			AMOUNT	PERCENT
Sci. & Tech. Info. Activities	YES	NO		
Admin. Staff	YES	NO		
Educational Activities	YES	NO		
Other (Specify)	YES	NO		
	YES	NO		

(12) ORGANIZATION S____ A_____

MAJOR SUBJECT SECTIONS

____

____

____

SPECIAL INTEREST GROUPS

____

____

____

REGIONAL GROUPINGS

____

____

COMMITTEES

TYPE			CHAIRMAN'S NAME & ADDRESS
Science Policy	YES	NO	
Society Policy	YES	NO	
Editorial	YES	NO	
Science Information (Other Than Editorial)	YES	NO	

(14) MEMBERSHIP S____ A_____

CURRENT (AS OF)

				COMPARISON OF PRESENT DUES WITH					
				DUES 10 YEARS AGO			DUES 20 YEARS AGO		
TYPES	NUMBER	QUALIFICATIONS	DUES	UP 10% OR MORE	NO CHANGE	REDUCED	UP 10% OR MORE	NO CHANGE	REDUCED

(13) PUBLICATIONS

S____ A____

a. Original Research Papers (Periodically)	YES	NO
b. Abstracting Service (Periodically)	YES	NO
c. Bibliographic Service (Periodically)	YES	NO
d. Society News	YES	NO
e. Review Articles	YES	NO
f. Educational Materials	YES	NO
g. Proceedings of Meetings	YES	NO
h. Translations	YES	NO
i. Other (Specify)	YES	NO

NAMES OF PERIODIC PUBLICATIONS	CIRCULATION	ISSUES PER YEAR	INCLUDED IN DUES		SUBSCRIPTION PRICE
1.			YES	NO	
2.			YES	NO	
3.			YES	NO	
4.			YES	NO	

NAMES OF SPECIAL PUBLICATIONS (Current or Pending)	PUBLICATION DATE	PRICE
1.		
2.		
3.		
4.		

PUBLICATION BACKLOG YES NO INCREASING DECREASING REMAINING THE SAME

Admin. Staff	YES	NO		
Educational Activities	YES	NO		
Other (Specify)	YES	NO		
	YES	NO		

(12) ORGANIZATION

S____ A____

MAJOR SUBJECT SECTIONS

____

____

____

SPECIAL INTEREST GROUPS

____

____

____

REGIONAL GROUPINGS

____

____

COMMITTEES

TYPE			CHAIRMAN'S NAME & ADDRESS
Science Policy	YES	NO	
Society Policy	YES	NO	
Editorial	YES	NO	
Science Information (Other Than Editorial)	YES	NO	

(14) MEMBERSHIP

S____ A____

CURRENT (AS OF)

				COMPARISON OF PRESENT DUES WITH					
				DUES 10 YEARS AGO			DUES 20 YEARS AGO		
TYPES	NUMBER	QUALIFICATIONS	DUES	UP 10% OR MORE	NO CHANGE	REDUCED	UP 10% OR MORE	NO CHANGE	REDUCED
TOTAL									

PAST MEMBERSHIP TOTALS

NLS____ NAS1____ NAS2____ NAS3____ NAS4____ NAS5____ NAS6____

GALE1____ GALE2____ NSF____ GALE3____ NAS7____ GALE4____ NSF2____ GALE5____ NAS8____

PREPARED BY WOLF RESEARCH AND DEVELOPMENT CORPORATION

(15) ESTABLISHMENT AND MAINTENANCE OF PROFESSIONAL STANDARDS S___A___

			DESCRIPTION
Academic Qualification for Universities	YES	NO	
Publishes Code of Ethics	YES	NO	
Licensing Function or Certification	YES	NO	
Other (Specify)	YES	NO	

(16) AFFILIATIONS S____ A____

NATIONAL ADVISORY GROUPS

ACLS SSRC NAS/NRC ACE EJC AAAS

Other (Specify) ____________________

OTHER SOCIETIES Description of Relationship

NON-SOCIETIES Description of Relationship

(19) INFORMATION FUNCTIONS S____ A____

Operates Speakers Bureau	YES	NO
Conducts Research in Information	YES	NO
Maintains or Sponsors a Special Library or Information Center	YES	NO

DESCRIPTION:

OTHER INFORMATION ACTIVITIES

(20) RESEARCH ACTIVITIES S____ A____

Society	YES	NO
Society Sponsored	YES	NO

DESCRIPTION:

(17) IDENTIFICATION AND REGISTRATION OF SPECIAL SCIENTIFIC MANPOWER RESOURCES

S____ A____

Collect and Maintain Statistical Data on Manpower Resources	YES	NO
Regularly Publish Membership Directories	YES	NO
Special Interest or Capability Registers	YES	NO
Maintains NSF Manpower Survey Register	YES	NO
Other Manpower Resources Activities	YES	NO
If Yes to Above, Comment on Availability of Such Information		

(18) SOCIETY STAFF Total__________ S____ A____

			NUMBER
Paid Full-Time Personnel	YES	NO	
Paid Part-Time Personnel Only	YES	NO	
Voluntary Labor Only	YES	NO	

CHIEF ACTIVITIES OF PAID PERSONNEL

Editorial Number	Administrative Number	Clerical Number	Other Number
________	________	________	________

Name, Title and Address of Highest Staff Member

(21) NOTES ON EDUCATION OR TRAINING ACTIVITIES S____ A____

(27) SUBJECT CATEGORIES S____ A____

10. Engineering:

- 11. Aeronautical
- 12. Chemical
- 13. Civil
  - .01 Architectural
  - .02 Structural
  - .03 Sanitary
- 14. Electrical
- 15. Mechanical

40. Life Sciences:

- 41. Agricultural Sciences
  - .01 Agronomy
  - .02 Animal husbandry
  - .03 Crops
  - .04 Dairy husbandry
  - .05 Fish and wildlife
  - .06 Food technology
  - .07 Forestry

OTHER INFORMATION ACTIVITIES

(20) RESEARCH ACTIVITIES S____ A_____

Society	YES	NO
Society Sponsored	YES	NO

DESCRIPTION:

(22) OCCUPATIONAL COMPOSITION OF MEMBERSHIP S____ A_____

TYPE	NUMBER	PERCENT
Government		
Business, Industry		
Academic		
Other (Specify)		

(23) CURRENT FINANCIAL STATEMENT OBTAINED YES NO

NOTES:

(24) CURRENT BY-LAWS OBTAINED YES NO

(25) NOTES ON SPECIAL PROBLEMS S____ A_____

(26) PLANS FOR FUTURE (IF DIFFERENT FROM PRESENT) S____ A_____

(21) NOTES ON EDUCATION OR TRAINING ACTIVITIES S____ A____

(27) SUBJECT CATEGORIES S_____ A_____

10. *Engineering:*

11. Aeronautical
12. Chemical
13. Civil
    .01 Architectural
    .02 Structural
    .03 Sanitary
14. Electrical
15. Mechanical
16. Industrial
17. Other engineering fields
    .01 Agricultural
    .02 Ceramic
    .03 Geological
    .04 Mining
    .05 Nuclear
    .06 Petroleum
    .07 Textile
    .20 Other engineering

20. *Physical Sciences:*

21. Chemistry
    .01 Agricultural and food chemistry
    .02 Analytical chemistry
    .03 Inorganic chemistry
    .04 Organic chemistry
    .05 Physical chemistry
    .06 Physical organic chemistry
    .07 Radiochemistry and isotope chemistry
    .08 Theoretical chemistry
    .20 Other chemistry

22. Earth Sciences
    .01 Climatology
    .02 Geochemistry
    .03 Geodesy and cartography
    .04 Geography (physical)
    .05 Geology
    .06 Geophysics
    .07 Hydrology and hydrography
    .08 Meteorology
    .09 Mineralogy
    .10 Oceanography
    .11 Paleontology
    .12 Petrography and Petrology
    .13 Seismology and volcanology
    .14 Stratigraphy, geomorphology and tectron physics
    .15 Terrestrial magnetism and electricity
    .20 Other earth sciences

23. Physics
    .01 Acoustics
    .02 Atomic and molecular physics
    .03 Electromagnetic phenomena
    .04 Electron physics and gaseous discharge
    .05 Mechanics
    .06 Nuclear physics and cosmic rays

40. *Life Sciences:*

41. Agricultural Sciences
    .01 Agronomy
    .02 Animal husbandry
    .03 Crops
    .04 Dairy husbandry
    .05 Fish and wildlife
    .06 Food technology
    .07 Forestry
    .08 Horticulture
    .09 Range management
    .10 Soils
    .20 Other agricultural sciences

42. Biological Sciences
    .01 Anatomy
    .02 Anthropology (physical)
    .03 Bacteriology
    .04 Biochemistry
    .05 Biology
    .06 Biometrics
    .07 Biophysics
    .08 Biostatistics
    .09 Botany
    .10 Entomology
    .11 Genetics
    .12 Microbiology
    .13 Nutrition
    .14 Pathology
    .15 Pharmacology
    .16 Phytopathology
    .17 Physiology
    .18 Zoology
    .20 Other biological sciences

43. Medical Sciences
    .01 Anesthesiology
    .02 Cardiology
    .03 Dermatology
    .04 Dentistry
    .05 Geriatrics
    .06 Internal medicine
    .07 Neurology
    .08 Obstetrics and Gynecology
    .09 Ophthamology
    .10 Otolaryngology
    .11 Pediatrics
    .12 Pharmacy
    .13 Physical medicine and rehabilitation
    .14 Podiatry
    .15 Psychiatry
    .16 Public Health
    .17 Radiology
    .18 Surgery
    .19 Veterinary medicine
    .20 Other clinical sciences

50. *Psychological Sciences:*

(22) OCCUPATIONAL COMPOSITION OF MEMBERSHIP S____ A____

TYPE	NUMBER	PERCENT
Government		
Business, Industry		
Academic		
Other (Specify)		

(23) CURRENT FINANCIAL STATEMENT OBTAINED ☐ YES ☐ NO

NOTES:

(24) CURRENT BY-LAWS OBTAINED ☐ YES ☐ NO

(25) NOTES ON SPECIAL PROBLEMS S____ A____

(26) PLANS FOR FUTURE (IF DIFFERENT FROM PRESENT) S____ A____

ITEM NO.	OVERFLOW SPACE

.01 Agricultural
.02 Ceramic
.03 Geological
.04 Mining
.05 Nuclear
.06 Petroleum
.07 Textile
.20 Other engineering

20. *Physical Sciences:*

21. Chemistry
    .01 Agricultural and food chemistry
    .02 Analytical chemistry
    .03 Inorganic chemistry
    .04 Organic chemistry
    .05 Physical chemistry
    .06 Physical organic chemistry
    .07 Radiochemistry and isotope chemistry
    .08 Theoretical chemistry
    .20 Other chemistry

22. Earth Sciences
    .01 Climatology
    .02 Geochemistry
    .03 Geodesy and cartography
    .04 Geography (physical)
    .05 Geology
    .06 Geophysics
    .07 Hydrology and hydrography
    .08 Meteorology
    .09 Mineralogy
    .10 Oceanography
    .11 Paleontology
    .12 Petrography and Petrology
    .13 Seismology and volcanology
    .14 Stratigraphy, geomorphology and tectron physics
    .15 Terrestrial magnetism and electricity
    .20 Other earth sciences

23. Physics
    .01 Acoustics
    .02 Atomic and molecular physics
    .03 Electromagnetic phenomena
    .04 Electron physics and gaseous discharge
    .05 Mechanics
    .06 Nuclear physics and cosmic rays
    .07 Optics
    .08 Solid state physics
    .09 Thermodynamics
    .20 Other physics

24. Other Physical Sciences
    .01 Astronomy
    .02 Metallurgy
    .20 Other

30. *Mathematical Sciences:*

.01 Algebra and number theory
.02 Analysis
.03 Differential equations
.04 Functional analysis
.05 Mathematical logic and theory of sets
.06 Mathematical statistics
.07 Numerical analysis
.08 Theoretical mechanics
.09 Topology and geometry
.20 Other mathematics

.10 Soils
.20 Other agricultural sciences

42. Biological Sciences
    .01 Anatomy
    .02 Anthropology (physical)
    .03 Bacteriology
    .04 Biochemistry
    .05 Biology
    .06 Biometrics
    .07 Biophysics
    .08 Biostatistics
    .09 Botany
    .10 Entomology
    .11 Genetics
    .12 Microbiology
    .13 Nutrition
    .14 Pathology
    .15 Pharmacology
    .16 Phytopathology
    .17 Physiology
    .18 Zoology
    .20 Other biological sciences

43. Medical Sciences
    .01 Anesthesiology
    .02 Cardiology
    .03 Dermatology
    .04 Dentistry
    .05 Geriatrics
    .06 Internal medicine
    .07 Neurology
    .08 Obstetrics and Gynecology
    .09 Ophthamology
    .10 Otolaryngology
    .11 Pediatrics
    .12 Pharmacy
    .13 Physical medicine and rehabilitation
    .14 Podiatry
    .15 Psychiatry
    .16 Public Health
    .17 Radiology
    .18 Surgery
    .19 Veterinary medicine
    .20 Other clinical sciences

50. *Psychological Sciences:*

.01 Clinical psychology
.02 Experimental psychology
.03 Social psychology
.20 Other psychology

60. *Social Sciences:*

61. Economics (including agricultural economics, econometrics and economic statistics)
62. Sociology
63. Political science
64. Anthropology (social)
65. Archeology
66. Geography (economic and social)
67. History
69. Other social sciences

70. *Other:*

71. History of Science
72. Science Education